

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

GARY DEV CO INC (Continued)

EDR ID Number
EPA ID Number

Database(s)

1000439903

Violation Status: Violations exist

Regulation Violated:	Not reported
Area of Violation:	GENERATOR-RECORDKEEPING REQUIREMENTS
Date Violation Determined:	03/26/1997
Actual Date Achieved Compliance:	Not reported
Regulation Violated:	Not reported
Area of Violation:	GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined:	03/26/1997
Actual Date Achieved Compliance:	Not reported
Regulation Violated:	Not reported
Area of Violation:	GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined:	03/26/1997
Actual Date Achieved Compliance:	Not reported
Regulation Violated:	Not reported
Area of Violation:	GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined:	03/26/1997
Actual Date Achieved Compliance:	Not reported
Regulation Violated:	Not reported
Area of Violation:	GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined:	03/26/1997
Actual Date Achieved Compliance:	Not reported
Regulation Violated:	Not reported
Area of Violation:	GENERATOR-PRE-TRANSPORT REQUIREMENTS
Date Violation Determined:	03/26/1997
Actual Date Achieved Compliance:	Not reported
Regulation Violated:	Not reported
Area of Violation:	TSD-LAND BAN REQUIREMENTS
Date Violation Determined:	03/26/1997
Actual Date Achieved Compliance:	Not reported
Regulation Violated:	Not reported
Area of Violation:	GENERATOR-MANIFEST REQUIREMENTS
Date Violation Determined:	03/26/1997
Actual Date Achieved Compliance:	Not reported
Regulation Violated:	Not reported
Area of Violation:	TSD-LANDFILLS REQUIREMENTS
Date Violation Determined:	09/26/1996
Actual Date Achieved Compliance:	08/13/1997
Enforcement Action:	INITIAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date:	05/30/1986
Penalty Type:	Proposed Monetary Penalty
Enforcement Action:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date:	04/08/1996
Penalty Type:	Proposed Monetary Penalty
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	11/08/1996
Penalty Type:	Proposed Monetary Penalty
Enforcement Action:	FINAL CONSENT DECREES
Enforcement Action Date:	07/30/1997
Penalty Type:	Proposed Monetary Penalty
Enforcement Action:	EPA RCRA TO EPA CERCLA ADMINISTRATIVE REFERRAL

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

GARY DEV CO INC (Continued)

EDR ID Number
EPA ID Number

Database(s)

1000439903

Enforcement Action Date:	08/13/1997
Penalty Type:	Proposed Monetary Penalty
Regulation Violated:	Not reported
Area of Violation:	TSD-LANDFILLS REQUIREMENTS
Date Violation Determined:	09/26/1996
Actual Date Achieved Compliance:	08/13/1997
Enforcement Action:	INITIAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date:	05/30/1986
Penalty Type:	Proposed Monetary Penalty
Enforcement Action:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date:	04/08/1996
Penalty Type:	Proposed Monetary Penalty
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	11/08/1996
Penalty Type:	Proposed Monetary Penalty
Enforcement Action:	FINAL CONSENT DECREES
Enforcement Action Date:	07/30/1997
Penalty Type:	Proposed Monetary Penalty
Enforcement Action:	EPA RCRA TO EPA CERCLA ADMINISTRATIVE REFERRAL
Enforcement Action Date:	08/13/1997
Penalty Type:	Proposed Monetary Penalty
Enforcement Action:	WRITTEN INFORMAL
Enforcement Action Date:	04/01/1985
Penalty Type:	Proposed Monetary Penalty
Regulation Violated:	Not reported
Area of Violation:	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined:	02/21/1996
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined:	08/09/1995
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	GENERATOR-RECORDKEEPING REQUIREMENTS
Date Violation Determined:	02/01/1995
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	TSD-OTHER REQUIREMENTS
Date Violation Determined:	02/01/1995
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	TSD-OTHER REQUIREMENTS
Date Violation Determined:	02/01/1995
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	TSD-OTHER REQUIREMENTS

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

GARY DEV CO INC (Continued)

EDR ID Number
EPA ID Number

Database(s)

1000439903

Date Violation Determined:	02/01/1995
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined:	02/25/1994
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	TSD-GENERAL STANDARDS
Date Violation Determined:	01/13/1993
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined:	09/11/1992
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	TSD-OTHER REQUIREMENTS
Date Violation Determined:	02/18/1992
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	GENERATOR-GENERAL REQUIREMENTS
Date Violation Determined:	02/18/1992
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	TSD-CLOSURE/POST-CLOSURE REQUIREMENTS
Date Violation Determined:	02/18/1992
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	TSD-GROUNDWATER MONITORING REQUIREMENTS
Date Violation Determined:	02/18/1992
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	TSD-OTHER REQUIREMENTS
Date Violation Determined:	02/18/1992
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	TSD-CONTINGENCY PLAN REQUIREMENTS
Date Violation Determined:	02/18/1992
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	TSD-GENERAL STANDARDS
Date Violation Determined:	02/18/1992
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	TSD-OTHER REQUIREMENTS
Date Violation Determined:	02/18/1992
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported
Area of Violation:	TSD-PREPAREDNESS/PREVENTION REQUIREMENTS
Date Violation Determined:	02/18/1992
Actual Date Achieved Compliance:	05/03/2001
Regulation Violated:	Not reported

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

GARY DEV CO INC (Continued)

EDR ID Number
EPA ID Number

Database(s)

1000439903

Area of Violation: TSD-CORRECTIVE ACTION COMPLIANCE SCHEDULE
Date Violation Determined: 06/17/1985
Actual Date Achieved Compliance: 05/03/2001
Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 04/01/1985
Penalty Type: Not reported
Regulation Violated: Not reported
Area of Violation: TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS
Date Violation Determined: 06/17/1985
Actual Date Achieved Compliance: 05/03/2001
Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 04/01/1985
Penalty Type: Not reported
Regulation Violated: Not reported
Area of Violation: TSD-CLOSURE/POST-CLOSURE REQUIREMENTS
Date Violation Determined: 06/17/1985
Actual Date Achieved Compliance: 05/03/2001
Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 04/01/1985
Penalty Type: Not reported
Regulation Violated: Not reported
Area of Violation: TSD-GROUNDWATER MONITORING REQUIREMENTS
Date Violation Determined: 06/17/1985
Actual Date Achieved Compliance: 05/03/2001
Enforcement Action: INITIAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 05/30/1986
Penalty Type: Proposed Monetary Penalty
Enforcement Action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Action Date: 04/08/1996
Penalty Type: Proposed Monetary Penalty
Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 11/08/1996
Penalty Type: Proposed Monetary Penalty
Enforcement Action: FINAL CONSENT DECREES
Enforcement Action Date: 07/30/1997
Penalty Type: Proposed Monetary Penalty
Enforcement Action: EPA RCRA TO EPA CERCLA ADMINISTRATIVE REFERRAL
Enforcement Action Date: 08/13/1997
Penalty Type: Proposed Monetary Penalty
Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 04/01/1985
Penalty Type: Proposed Monetary Penalty
Regulation Violated: Not reported
Area of Violation: TSD-OTHER REQUIREMENTS (OVERSIGHT)
Date Violation Determined: 06/17/1985
Actual Date Achieved Compliance: 05/03/2001
Enforcement Action: WRITTEN INFORMAL
Enforcement Action Date: 04/01/1985
Penalty Type: Not reported

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

Site Database(s) EDR ID Number
EPA ID Number

GARY DEV CO INC (Continued)

1000439903

Penalty Summary:

Penalty Description	Penalty Date	Penalty Amount	Lead Agency
Final Monetary Penalty	7/30/1997	86000	EPA
Final Monetary Penalty	4/8/1996	86000	EPA

There are 34 violation record(s) reported at this site:

Evaluation	Area of Violation	Date of Compliance
Not a Significant Non-Complier (SNC)	TSD-LANDFILLS REQUIREMENTS	19970813
	TSD-LANDFILLS REQUIREMENTS	19970813
Compliance Evaluation Inspection	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-RECORDKEEPING REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	TSD-LAND BAN REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
	GENERATOR-MANIFEST REQUIREMENTS	
	GENERATOR-PRE-TRANSPORT REQUIREMENTS	
CDI	TSD-LANDFILLS REQUIREMENTS	19970813
	TSD-LANDFILLS REQUIREMENTS	19970813
A Significant Non-Complier (SNC)	TSD-LANDFILLS REQUIREMENTS	19970813
	TSD-LANDFILLS REQUIREMENTS	19970813
Compliance Schedule Evaluation	TSD-LANDFILLS REQUIREMENTS	19970813
	TSD-LANDFILLS REQUIREMENTS	19970813
Financial Record Review	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	20010503
Financial Record Review	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	20010503
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS	20010503
	TSD-OTHER REQUIREMENTS	20010503
	TSD-PREPAREDNESS/PREVENTION REQUIREMENTS	20010503
	TSD-OTHER REQUIREMENTS	20010503
	GENERATOR-RECORDKEEPING REQUIREMENTS	20010503
Financial Record Review	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	20010503
Financial Record Review	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	20010503
Compliance Evaluation Inspection	TSD-GENERAL STANDARDS	20010503
Financial Record Review	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	20010503
Compliance Evaluation Inspection	TSD-OTHER REQUIREMENTS	20010503
	GENERATOR-GENERAL REQUIREMENTS	20010503
	TSD-CONTINGENCY PLAN REQUIREMENTS	20010503
	TSD-OTHER REQUIREMENTS	20010503
	TSD-PREPAREDNESS/PREVENTION REQUIREMENTS	20010503
	TSD-OTHER REQUIREMENTS	20010503
	TSD-GROUNDWATER MONITORING REQUIREMENTS	20010503
	TSD-GENERAL STANDARDS	20010503
	TSD-CLOSURE/POST-CLOSURE REQUIREMENTS	20010503
Compliance Evaluation Inspection	TSD-GROUNDWATER MONITORING REQUIREMENTS	20010503
	TSD-CLOSURE/POST-CLOSURE REQUIREMENTS	20010503
	TSD-OTHER REQUIREMENTS (OVERSIGHT)	20010503
	TSD-FINANCIAL RESPONSIBILITY REQUIREMENTS	20010503
	TSD-CORRECTIVE ACTION COMPLIANCE SCHEDULE	20010503

FINDS:

Other Pertinent Environmental Activity Identified at Site

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance

Map ID
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Distance (ft.)
Elevation

MAP FINDINGS

GARY DEV CO INC (Continued)

EDR ID Number
EPA ID Number

Database(s)

1000439903

information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and its Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System) is the Superfund database that is used to support management in all phases of the Superfund program. The system contains information on all aspects of hazardous waste sites, including an inventory of sites, planned and actual site activities, and financial information.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

IN-FRS (Indiana - Facility Registry System). The Indiana Department of Environmental Management (I-DEM) has implemented the Indiana-Facility Registry System (I-FRS). The I-FRS provides the interface and processes to link facility data monitored by multiple State and EPA program systems. In addition, I-FRS enables IDEM to reconcile environmental data and exchange it with EPA FRS using the electronic data exchange over the Network Node

CORRACTS:

EPA ID: IND077005916
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 09/27/1991
Action: CA075ME - CA Prioritization, Facility or area was assigned a medium corrective action priority
NAICS Code(s): Not reported

EPA ID: IND077005916
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 09/30/1987
Action: CA050 - RFA Completed
NAICS Code(s): Not reported

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

GARY DEV CO INC (Continued)

EDR ID Number
EPA ID Number

Database(s)

1000439903

EPA ID: IND077005916
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 09/30/1987
Action: CA070YE - RFA Determination Of Need For An RFI, RFI is Necessary
NAICS Code(s): Not reported

IN MANIFEST:

EPA ID: IND077005916
Flag: HANDLER
Facility Address 2: Not reported

MANIFEST HANDLER :

EPA ID #: IND077005916
Generator Type: CEG
Generator Status: Active
Transporter Type: Not reported
Transporter Status: Non Active
TSD Type: Interim or Enforcement TSD
TSD Status: Non Active
Handler Mailing Address: PO BOX 6056
Handler Mailing City: GARY
Handler Mailing State: IN
Handler Mailing Zip: 46406
Contact Last Name: BOSEMAN
Contact First Name: ANITA
Contact Telephone: 312-353-9176
Contact Type: B

EPA ID #: IND077005916
Generator Type: CEG
Generator Status: Active
Transporter Type: Not reported
Transporter Status: Non Active
TSD Type: Interim or Enforcement TSD
TSD Status: Non Active
Handler Mailing Address: PO BOX 6056
Handler Mailing City: GARY
Handler Mailing State: IN
Handler Mailing Zip: 46406
Contact Last Name: BOSEMAN
Contact First Name: ANITA
Contact Telephone: 312-353-9176
Contact Type: B

MANIFEST REC:

Report Year: Not reported
EPA ID: Not reported
Page Number: Not reported
Sub Page: Not reported
Generator EPA ID: Not reported
Waste Description: Not reported
Quantity of Waste: Not reported
Unit of Measure: Not reported

MANIFEST SHIPPER:

Map ID
Direction
Distance
Distance (ft.)
Elevation Site

MAP FINDINGS

Database(s) EDR ID Number
EPA ID Number

GARY DEV CO INC (Continued)

1000439903

EPA ID: Not reported
Waste Description Shipped: Not reported
Shipped File Page Number: Not reported
Number Of TSD Facilities: Not reported
Waste Codes on Page Number: Not reported
Waste Code: Not reported
Tons Of Waste Shipped Year: Not reported
TSD Facility EPA ID: Not reported
Facility Address 2: Not reported

MANIFEST TRA :

Report Year: Not reported
Generator EPA ID: Not reported
Page Number of Report: Not reported
Transporter's EPA ID: Not reported
Num Of Tranporters Used: Not reported

EPA ID: IND077005916
Flag: HANDLER
Facility Address 2: Not reported

MANIFEST HANDLER :

EPA ID #: IND077005916
Generator Type: CEG
Generator Status: Active
Transporter Type: Not reported
Transporter Status: Non Active
TSD Type: Interim or Enforcement TSD
TSD Status: Non Active
Handler Mailing Address: PO BOX 6056
Handler Mailing City: GARY
Handler Mailing State: IN
Handler Mailing Zip: 46406
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Contact First Name: ANITA
Contact Telephone: 312-353-9176
Contact Type: B

EPA ID #: IND077005916
Generator Type: CEG
Generator Status: Active
Transporter Type: Not reported
Transporter Status: Non Active
TSD Type: Interim or Enforcement TSD
TSD Status: Non Active
Handler Mailing Address: PO BOX 6056
Handler Mailing City: GARY
Handler Mailing State: IN
Handler Mailing Zip: 46406
Contact Last Name: BOSEMAN
Contact First Name: ANITA
Contact Telephone: 312-353-9176
Contact Type: B

MANIFEST REC:

Report Year: Not reported

Map ID
Direction
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Distance (ft.)
Elevation

MAP FINDINGS

GARY DEV CO INC (Continued)

EDR ID Number
EPA ID Number

Database(s)

1000439903

EPA ID: Not reported
Page Number: Not reported
Sub Page: Not reported
Generator EPA ID: Not reported
Waste Description: Not reported
Quantity of Waste: Not reported
Unit of Measure: Not reported

MANIFEST SHIPPER:

EPA ID: Not reported
Waste Description Shipped: Not reported
Shipped File Page Number: Not reported
Number Of TSD Facilities: Not reported
Waste Codes on Page Number: Not reported
Waste Code: Not reported
Tons Of Waste Shipped Year: Not reported
TSD Facility EPA ID: Not reported
Facility Address 2: Not reported

MANIFEST TRA :

Report Year: Not reported
Generator EPA ID: Not reported
Page Number of Report: Not reported
Transporter's EPA ID: Not reported
Num Of Transporters Used: Not reported

28
SSE
1/2-1
4051 ft.

NIKE C-45 - GARY AIRPORT
GARY, IN

FUDS 1007211470
N/A

Relative:
Higher

Actual:
590 ft.

FUDS:

Federal Facility ID: IN9799F9515
Facility Name: NIKE C-45 - GARY AIRPORT
City: GARY
State: IN
EPA Region: 5
County: LAKE
Congressional District: 01
US Army District: Louisville District (LRL
Fiscal Year: 2005
Telephone: 502-315-6766
NPL Status: Not Listed
Description: The 100.32-acre Nike Site C-45 is located in Gary, Lake Coun
RAB: Not reported
History: The Nike Site C-45 was acquired in February 1954. It was use
Current Owner: FEDERAL
CTC: 534.71
Current Prog: Not reported
Future Prog: Not reported
Latitude: 41.6161111
Longitude: -87.4127778

FUDS Description Details:

The 100.32-acre Nike Site C-45 is located in Gary, Lake County,

Map ID
Direction
Distance
Distance (ft.)
Elevation

MAP FINDINGS

NIKE C-45 - GARY AIRPORT (Continued)

EDR ID Number
EPA ID Number

Database(s)

1007211470

Indiana, inside the triangle formed by U.S. 12, Interstate 80/90 and Indiana 912. The property is currently being utilized exclusively for the Gary Chicago Airport.

FUDS History Details:

The Nike Site C-45 was acquired in February 1954. It was used for assembly, launching, and control of guided missiles for air defense. There is a 3,000-gallon UST and a 6,000-gallon UST, as well as two places with contaminated soil.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
GARY	1001817018	INDOT	15TH AVE OVER SR 912	46406	RCRA-SQG, FINDS, IN MANIFEST
GARY	U003095291	GARY SANITARY DISTRICT	3600 W 3RD AVE	46402	LUST, IN Spills
GARY	1001817019	INDOT	SR 912 OVER 9TH AVE	46406	RCRA-SQG, FINDS, IN MANIFEST
GARY	1006812529	9TH AVE ABANDONED DRUM SITE	9TH AVE AND CLINE	46406	CERCLIS
GARY	1000841346	NIPSCO DH MITCHELL GEN STA	CLARK RD AND LAKE MICHIGAN	46402	RCRA-SQG, FINDS, RCRA-TSDF, CORRACTS, IN MANIFEST, AIRS
GARY	1000379237	HOUSE'S JUNK YARD	E OF CLARK ST 3/8MI N OF JCT	46406	CERCLIS, FINDS

EPA Waste Codes Addendum

Code	Description
D001	IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.
D004	ARSENIC
D007	CHROMIUM
D008	LEAD
D018	BENZENE
F001	THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLOROETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE, AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F002	THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F003	THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
F005	THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

EPA Waste Codes Addendum

Code	Description
F007	SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS
F008	PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS WHERE CYANIDES ARE USED IN THE PROCESS.
F009	SPENT STRIPPING AND CLEANING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS WHERE CYANIDES ARE USED IN THE PROCESS.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

FEDERAL RECORDS

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 01/25/2007	Source: EPA
Date Data Arrived at EDR: 01/31/2007	Telephone: N/A
Date Made Active in Reports: 03/12/2007	Last EDR Contact: 05/03/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 07/30/2007
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 09/27/2006	Source: EPA
Date Data Arrived at EDR: 11/01/2006	Telephone: N/A
Date Made Active in Reports: 11/22/2006	Last EDR Contact: 05/03/2007
Number of Days to Update: 21	Next Scheduled EDR Contact: 07/30/2007
	Data Release Frequency: Quarterly

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/28/2006	Source: EPA
Date Data Arrived at EDR: 01/31/2007	Telephone: N/A
Date Made Active in Reports: 03/12/2007	Last EDR Contact: 05/03/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 07/30/2007
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 05/21/2007
Number of Days to Update: 56	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: No Update Planned

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/27/2007	Source: EPA
Date Data Arrived at EDR: 03/21/2007	Telephone: 703-603-8960
Date Made Active in Reports: 04/27/2007	Last EDR Contact: 03/21/2007
Number of Days to Update: 37	Next Scheduled EDR Contact: 06/18/2007
	Data Release Frequency: Quarterly

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 03/21/2007	Source: EPA
Date Data Arrived at EDR: 04/27/2007	Telephone: 703-603-8960
Date Made Active in Reports: 05/25/2007	Last EDR Contact: 03/19/2007
Number of Days to Update: 28	Next Scheduled EDR Contact: 06/18/2007
	Data Release Frequency: Quarterly

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/14/2007	Source: EPA
Date Data Arrived at EDR: 03/20/2007	Telephone: 800-424-9346
Date Made Active in Reports: 04/27/2007	Last EDR Contact: 03/05/2007
Number of Days to Update: 38	Next Scheduled EDR Contact: 06/04/2007
	Data Release Frequency: Quarterly

RCRA: Resource Conservation and Recovery Act Information

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRAInfo replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS). The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month. Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month. Transporters are individuals or entities that move hazardous waste from the generator off-site to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/13/2006	Source: EPA
Date Data Arrived at EDR: 06/28/2006	Telephone: 312-886-6186
Date Made Active in Reports: 08/23/2006	Last EDR Contact: 05/16/2007
Number of Days to Update: 56	Next Scheduled EDR Contact: 07/16/2007
	Data Release Frequency: Quarterly

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/2006	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 01/24/2007	Telephone: 202-267-2180
Date Made Active in Reports: 03/12/2007	Last EDR Contact: 04/24/2007
Number of Days to Update: 47	Next Scheduled EDR Contact: 07/23/2007
	Data Release Frequency: Annually

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/2005	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 04/17/2007	Telephone: 202-366-4555
Date Made Active in Reports: 05/14/2007	Last EDR Contact: 04/17/2007
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/16/2007
	Data Release Frequency: Annually

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 04/20/2007	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/26/2007	Telephone: 703-603-8905
Date Made Active in Reports: 05/25/2007	Last EDR Contact: 04/02/2007
Number of Days to Update: 29	Next Scheduled EDR Contact: 07/02/2007
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 04/20/2007	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/26/2007	Telephone: 703-603-8905
Date Made Active in Reports: 05/25/2007	Last EDR Contact: 04/02/2007
Number of Days to Update: 29	Next Scheduled EDR Contact: 07/02/2007
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 703-692-8801
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 05/11/2007
Number of Days to Update: 62	Next Scheduled EDR Contact: 08/06/2007
	Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2005	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 09/20/2006	Telephone: 202-528-4285
Date Made Active in Reports: 11/22/2006	Last EDR Contact: 04/02/2007
Number of Days to Update: 63	Next Scheduled EDR Contact: 07/02/2007
	Data Release Frequency: Varies

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 04/04/2007	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/04/2007	Telephone: 202-566-2777
Date Made Active in Reports: 05/25/2007	Last EDR Contact: 03/12/2007
Number of Days to Update: 51	Next Scheduled EDR Contact: 06/11/2007
	Data Release Frequency: Semi-Annually

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 08/23/2006	Source: Department of Justice, Consent Decree Library
Date Data Arrived at EDR: 03/06/2007	Telephone: Varies
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 04/23/2007
Number of Days to Update: 35	Next Scheduled EDR Contact: 07/23/2007
	Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 03/27/2007	Source: EPA
Date Data Arrived at EDR: 03/27/2007	Telephone: 703-416-0223
Date Made Active in Reports: 04/27/2007	Last EDR Contact: 03/27/2007
Number of Days to Update: 31	Next Scheduled EDR Contact: 07/02/2007
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 12/31/2005	Source: Department of Energy
Date Data Arrived at EDR: 11/08/2006	Telephone: 505-845-0011
Date Made Active in Reports: 01/29/2007	Last EDR Contact: 05/17/2007
Number of Days to Update: 82	Next Scheduled EDR Contact: 06/18/2007
	Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/09/2004	Telephone: 800-424-9346
Date Made Active in Reports: 09/17/2004	Last EDR Contact: 06/09/2004
Number of Days to Update: 39	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2004	Source: EPA
Date Data Arrived at EDR: 06/22/2006	Telephone: 202-566-0250
Date Made Active in Reports: 08/23/2006	Last EDR Contact: 04/27/2007
Number of Days to Update: 62	Next Scheduled EDR Contact: 06/18/2007
	Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002	Source: EPA
Date Data Arrived at EDR: 04/14/2006	Telephone: 202-260-5521
Date Made Active in Reports: 05/30/2006	Last EDR Contact: 04/16/2007
Number of Days to Update: 46	Next Scheduled EDR Contact: 07/16/2007
	Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 02/26/2007	Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-566-1667
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 03/19/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 06/18/2007
	Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 02/26/2007	Source: EPA
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-566-1667
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 03/19/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 06/18/2007
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2005	Source: EPA
Date Data Arrived at EDR: 03/13/2007	Telephone: 202-564-4203
Date Made Active in Reports: 04/27/2007	Last EDR Contact: 04/12/2007
Number of Days to Update: 45	Next Scheduled EDR Contact: 07/16/2007
	Data Release Frequency: Annually

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 03/08/2007	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/12/2007	Telephone: 202-564-6023
Date Made Active in Reports: 05/14/2007	Last EDR Contact: 05/21/2007
Number of Days to Update: 32	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 05/01/2007	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/03/2007	Telephone: 202-343-9775
Date Made Active in Reports: 05/25/2007	Last EDR Contact: 05/03/2007
Number of Days to Update: 22	Next Scheduled EDR Contact: 07/30/2007
	Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 12/01/2006	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 01/08/2007	Telephone: 202-307-1000
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 05/22/2007
Number of Days to Update: 3	Next Scheduled EDR Contact: 06/25/2007
	Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2007	Telephone: 202-564-2501
Date Made Active in Reports: 04/10/2007	Last EDR Contact: 03/19/2007
Number of Days to Update: 40	Next Scheduled EDR Contact: 06/18/2007
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 02/21/2007
Date Data Arrived at EDR: 04/03/2007
Date Made Active in Reports: 05/14/2007
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 04/16/2007
Next Scheduled EDR Contact: 07/16/2007
Data Release Frequency: Quarterly

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 03/26/2007
Next Scheduled EDR Contact: 06/11/2007
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 02/14/2007
Date Data Arrived at EDR: 02/28/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 41

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/30/2007
Next Scheduled EDR Contact: 08/27/2007
Data Release Frequency: Varies

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 10/17/2006
Date Data Arrived at EDR: 11/29/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 43

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 05/25/2007
Next Scheduled EDR Contact: 08/06/2007
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/05/2007
Date Data Arrived at EDR: 04/25/2007
Date Made Active in Reports: 05/25/2007
Number of Days to Update: 30

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 04/02/2007
Next Scheduled EDR Contact: 07/02/2007
Data Release Frequency: Quarterly

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/06/2007
Date Data Arrived at EDR: 03/28/2007
Date Made Active in Reports: 05/14/2007
Number of Days to Update: 47

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 03/28/2007
Next Scheduled EDR Contact: 06/25/2007
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/18/2007	Source: EPA
Date Data Arrived at EDR: 01/23/2007	Telephone: (312) 353-2000
Date Made Active in Reports: 02/27/2007	Last EDR Contact: 05/14/2007
Number of Days to Update: 35	Next Scheduled EDR Contact: 07/02/2007
	Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 03/05/2007
Number of Days to Update: 35	Next Scheduled EDR Contact: 06/04/2007
	Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2005	Source: EPA/NTIS
Date Data Arrived at EDR: 03/06/2007	Telephone: 800-424-9346
Date Made Active in Reports: 04/13/2007	Last EDR Contact: 03/06/2007
Number of Days to Update: 38	Next Scheduled EDR Contact: 06/11/2007
	Data Release Frequency: Biennially

STATE AND LOCAL RECORDS

SHWS: List of Hazardous Waste Response Sites Scored Using the Indiana Scoring Model

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 04/21/2006	Source: Department of Environmental Management
Date Data Arrived at EDR: 05/16/2006	Telephone: 317-308-3052
Date Made Active in Reports: 06/12/2006	Last EDR Contact: 04/18/2007
Number of Days to Update: 27	Next Scheduled EDR Contact: 06/25/2007
	Data Release Frequency: Annually

SWF/LF: Permitted Solid Waste Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 01/04/2007	Source: Department of Environmental Management
Date Data Arrived at EDR: 01/25/2007	Telephone: 317-232-0066
Date Made Active in Reports: 02/13/2007	Last EDR Contact: 04/27/2007
Number of Days to Update: 19	Next Scheduled EDR Contact: 07/09/2007
	Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST: Lust Leaking Underground Storage Tank List

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 03/26/2007	Source: Department of Environmental Management
Date Data Arrived at EDR: 03/28/2007	Telephone: 317-232-8900
Date Made Active in Reports: 04/25/2007	Last EDR Contact: 03/28/2007
Number of Days to Update: 28	Next Scheduled EDR Contact: 06/25/2007
	Data Release Frequency: Annually

UST: Indiana Registered Underground Storage Tanks

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 03/26/2007	Source: Department of Environmental Management
Date Data Arrived at EDR: 03/28/2007	Telephone: 317-308-3008
Date Made Active in Reports: 04/19/2007	Last EDR Contact: 03/28/2007
Number of Days to Update: 22	Next Scheduled EDR Contact: 06/25/2007
	Data Release Frequency: Quarterly

BULK: Registered Bulk Fertilizer and Pesticide Storage Facilities

A listing of registered dry or liquid bulk fertilizer and pesticide storage facilities.

Date of Government Version: 03/12/2007	Source: Office of Indiana State Chemist
Date Data Arrived at EDR: 03/14/2007	Telephone: 765-494-0579
Date Made Active in Reports: 04/25/2007	Last EDR Contact: 03/12/2007
Number of Days to Update: 42	Next Scheduled EDR Contact: 06/11/2007
	Data Release Frequency: Varies

MANIFEST: Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2005	Source: Department of Environmental Management
Date Data Arrived at EDR: 01/29/2007	Telephone: 317-233-4624
Date Made Active in Reports: 02/13/2007	Last EDR Contact: 04/30/2007
Number of Days to Update: 15	Next Scheduled EDR Contact: 07/30/2007
	Data Release Frequency: Annually

SPILLS: Spills Incidents

Oil, hazardous, or objectionable materials that may be released to soil and water.

Date of Government Version: 03/26/2007	Source: Department of Environmental Management
Date Data Arrived at EDR: 03/28/2007	Telephone: 317-308-3038
Date Made Active in Reports: 04/25/2007	Last EDR Contact: 03/28/2007
Number of Days to Update: 28	Next Scheduled EDR Contact: 06/25/2007
	Data Release Frequency: Semi-Annually

AUL: Sites with Restrictions

Activity and use limitations include both engineering controls and institutional controls. A listing of Comfort/Site Status Letter sites that have been issued with controls.

Date of Government Version: 03/28/2007	Source: Department of Environmental Management
Date Data Arrived at EDR: 03/28/2007	Telephone: 317-232-8603
Date Made Active in Reports: 04/25/2007	Last EDR Contact: 03/26/2007
Number of Days to Update: 28	Next Scheduled EDR Contact: 06/25/2007
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

VCP: Voluntary Remediation Program Site List

A current list of Voluntary Remediation Program sites that are no longer confidential.

Date of Government Version: 02/01/2007	Source: Department of Environmental Management
Date Data Arrived at EDR: 05/08/2007	Telephone: 317-234-0966
Date Made Active in Reports: 05/30/2007	Last EDR Contact: 05/08/2007
Number of Days to Update: 22	Next Scheduled EDR Contact: 08/06/2007
	Data Release Frequency: Semi-Annually

DRYCLEANERS: Drycleaner Facility Listing

A list of drycleaners involved in the Indiana 5-Star Environmental Recognition Program. It is a voluntary program that ranks participating drycleaners on a scale of one to five stars. The program recognizes those drycleaners willing to do more for the environment and worker safety than the rules require. These drycleaners are going above and beyond the rules to protect the environment, their employees and their neighbors and customers.

Date of Government Version: 10/17/2006	Source: Department of Environmental Management
Date Data Arrived at EDR: 10/25/2006	Telephone: 800-988-7901
Date Made Active in Reports: 12/06/2006	Last EDR Contact: 04/09/2007
Number of Days to Update: 42	Next Scheduled EDR Contact: 07/09/2007
	Data Release Frequency: Varies

BROWNFIELDS: Brownfields Site List

A brownfield site is an industrial or commercial property that is abandoned, inactive, or underutilized, on which expansion or redevelopment is complicated due to the actual or perceived environmental contamination.

Date of Government Version: 03/28/2007	Source: Department of Environmental Management
Date Data Arrived at EDR: 03/28/2007	Telephone: 317-233-2570
Date Made Active in Reports: 04/25/2007	Last EDR Contact: 03/26/2007
Number of Days to Update: 28	Next Scheduled EDR Contact: 06/25/2007
	Data Release Frequency: Semi-Annually

AIRS: Permitted Sources & Emissions Listing

Current permitted sources and emissions inventory information.

Date of Government Version: 11/14/2006	Source: Department of Environmental Management
Date Data Arrived at EDR: 11/20/2006	Telephone: 317-233-0185
Date Made Active in Reports: 12/28/2006	Last EDR Contact: 05/14/2007
Number of Days to Update: 38	Next Scheduled EDR Contact: 07/30/2007
	Data Release Frequency: Varies

TIER 2: Tier 2 Facility Listing

A listing of facilities which store or manufacture hazardous materials that submit a chemical inventory report.

Date of Government Version: 12/27/2006	Source: Department of Environmental Management
Date Data Arrived at EDR: 12/27/2006	Telephone: 317-233-0066
Date Made Active in Reports: 02/13/2007	Last EDR Contact: 03/26/2007
Number of Days to Update: 48	Next Scheduled EDR Contact: 06/25/2007
	Data Release Frequency: Varies

TRIBAL RECORDS

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 02/06/2006	Telephone: 202-208-3710
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 05/11/2007
Number of Days to Update: 339	Next Scheduled EDR Contact: 08/06/2007
	Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 02/19/2007	Source: EPA Region 8
Date Data Arrived at EDR: 02/27/2007	Telephone: 303-312-6271
Date Made Active in Reports: 04/04/2007	Last EDR Contact: 05/21/2007
Number of Days to Update: 36	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/06/2006	Source: EPA Region 7
Date Data Arrived at EDR: 10/04/2006	Telephone: 913-551-7003
Date Made Active in Reports: 11/08/2006	Last EDR Contact: 05/21/2007
Number of Days to Update: 35	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/04/2005	Source: EPA Region 6
Date Data Arrived at EDR: 01/21/2005	Telephone: 214-665-6597
Date Made Active in Reports: 02/28/2005	Last EDR Contact: 05/21/2007
Number of Days to Update: 38	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Minnesota, Mississippi and North Carolina.

Date of Government Version: 03/20/2007	Source: EPA Region 4
Date Data Arrived at EDR: 04/16/2007	Telephone: 404-562-8677
Date Made Active in Reports: 05/14/2007	Last EDR Contact: 05/21/2007
Number of Days to Update: 28	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 12/01/2006	Source: EPA Region 1
Date Data Arrived at EDR: 12/01/2006	Telephone: 617-918-1313
Date Made Active in Reports: 01/29/2007	Last EDR Contact: 05/21/2007
Number of Days to Update: 59	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 03/01/2007	Source: EPA Region 10
Date Data Arrived at EDR: 03/01/2007	Telephone: 206-553-2857
Date Made Active in Reports: 04/04/2007	Last EDR Contact: 05/21/2007
Number of Days to Update: 34	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 03/30/2007	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/30/2007	Telephone: 415-972-3372
Date Made Active in Reports: 04/27/2007	Last EDR Contact: 05/21/2007
Number of Days to Update: 28	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R10: Underground Storage Tanks on Indian Land

Date of Government Version: 03/01/2007	Source: EPA Region 10
Date Data Arrived at EDR: 03/01/2007	Telephone: 206-553-2857
Date Made Active in Reports: 04/04/2007	Last EDR Contact: 05/21/2007
Number of Days to Update: 34	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

Date of Government Version: 03/26/2007	Source: EPA Region 9
Date Data Arrived at EDR: 03/27/2007	Telephone: 415-972-3368
Date Made Active in Reports: 04/27/2007	Last EDR Contact: 05/21/2007
Number of Days to Update: 31	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: Quarterly

INDIAN UST R4: Underground Storage Tanks on Indian Land

Date of Government Version: 03/20/2007	Source: EPA Region 4
Date Data Arrived at EDR: 04/16/2007	Telephone: 404-562-9424
Date Made Active in Reports: 05/14/2007	Last EDR Contact: 05/21/2007
Number of Days to Update: 28	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: Semi-Annually

INDIAN UST R6: Underground Storage Tanks on Indian Land

Date of Government Version: 01/11/2007	Source: EPA Region 6
Date Data Arrived at EDR: 01/12/2007	Telephone: 214-665-7591
Date Made Active in Reports: 01/29/2007	Last EDR Contact: 05/21/2007
Number of Days to Update: 17	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

A listing of underground storage tank locations on Indian Land.

Date of Government Version: 12/01/2006	Source: EPA, Region 1
Date Data Arrived at EDR: 12/01/2006	Telephone: 617-918-1313
Date Made Active in Reports: 01/29/2007	Last EDR Contact: 05/21/2007
Number of Days to Update: 59	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

Date of Government Version: 12/02/2004	Source: EPA Region 5
Date Data Arrived at EDR: 12/29/2004	Telephone: 312-886-6136
Date Made Active in Reports: 02/04/2005	Last EDR Contact: 05/21/2007
Number of Days to Update: 37	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

Date of Government Version: 02/19/2007	Source: EPA Region 8
Date Data Arrived at EDR: 02/27/2007	Telephone: 303-312-6137
Date Made Active in Reports: 04/04/2007	Last EDR Contact: 05/21/2007
Number of Days to Update: 36	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

Date of Government Version: 09/06/2006	Source: EPA Region 7
Date Data Arrived at EDR: 10/04/2006	Telephone: 913-551-7003
Date Made Active in Reports: 11/08/2006	Last EDR Contact: 05/21/2007
Number of Days to Update: 35	Next Scheduled EDR Contact: 08/20/2007
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR PROPRIETARY RECORDS

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2004
Date Data Arrived at EDR: 02/17/2006
Date Made Active in Reports: 04/07/2006
Number of Days to Update: 49

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 03/16/2007
Next Scheduled EDR Contact: 06/11/2007
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 04/01/2007
Date Data Arrived at EDR: 04/05/2007
Date Made Active in Reports: 05/08/2007
Number of Days to Update: 33

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/05/2007
Next Scheduled EDR Contact: 07/02/2007
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 10/26/2006
Date Data Arrived at EDR: 11/29/2006
Date Made Active in Reports: 01/05/2007
Number of Days to Update: 37

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 03/02/2007
Next Scheduled EDR Contact: 05/28/2007
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 06/06/2006
Number of Days to Update: 81

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/16/2007
Next Scheduled EDR Contact: 06/11/2007
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 04/09/2007
Date Data Arrived at EDR: 04/12/2007
Date Made Active in Reports: 04/27/2007
Number of Days to Update: 15

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 03/19/2007
Next Scheduled EDR Contact: 06/18/2007
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data

Hazardous waste manifest information.

Date of Government Version: 12/31/2006
Date Data Arrived at EDR: 04/03/2007
Date Made Active in Reports: 04/24/2007
Number of Days to Update: 21

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 05/14/2007
Next Scheduled EDR Contact: 08/13/2007
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 03/17/2006
Date Made Active in Reports: 05/02/2006
Number of Days to Update: 46

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 04/24/2007
Next Scheduled EDR Contact: 07/09/2007
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data

Source: PennWell Corporation
Telephone: (800) 823-6277

This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health
Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: child Care Listing

Source: Family & Social Services Administration

Telephone: 317-232-4740

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK® - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

CONSERVATION CHEMICAL COMPANY
6500 INDUSTRIAL HIGHWAY
GARY, IN 46406

TARGET PROPERTY COORDINATES

Latitude (North):	41.62810 - 41° 37' 41.2"
Longitude (West):	87.4198 - 87° 25' 11.3"
Universal Transverse Mercator:	Zone 16
UTM X (Meters):	465030.5
UTM Y (Meters):	4608358.0
Elevation:	590 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	41087-F4 WHITING, IN
Most Recent Revision:	1998
South Map:	41087-E4 HIGHLAND, IN
Most Recent Revision:	1998

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

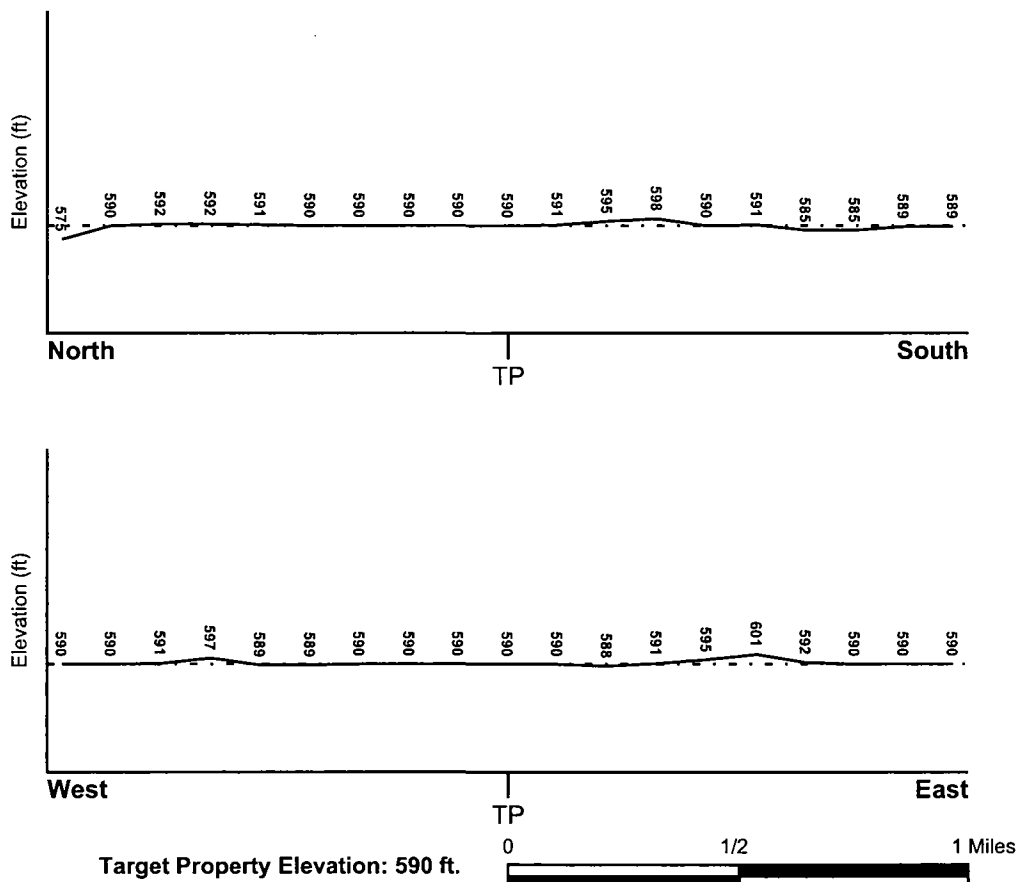
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General North

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Target Property County</u>	<u>FEMA Flood</u>
LAKE, IN	<u>Electronic Data</u>
	YES - refer to the Overview Map and Detail Map
 Flood Plain Panel at Target Property:	1801320017C
 Additional Panels in search area:	00000000000
	1801300004C
	1801300006C
	1801320018C

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic</u>
WHITING	<u>Data Coverage</u>
	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION</u>	<u>GENERAL DIRECTION</u>
Not Reported	<u>FROM TP</u>	<u>GROUNDWATER FLOW</u>

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era: Paleozoic
System: Silurian
Series: Middle Silurian (Niagoaran)
Code: S2 (decoded above as Era, System & Series)

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name: COLOMA

Soil Surface Texture: loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively. Soils have very high and high hydraulic conductivity and low water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: LOW

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Permeability Rate (in/hr)	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	4 inches	loamy sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 20.00 Min: 6.00	Max: 7.30 Min: 4.50
2	4 inches	39 inches	sand	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 20.00 Min: 6.00	Max: 7.30 Min: 4.50
3	39 inches	60 inches	stratified	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly graded sand.	Max: 20.00 Min: 6.00	Max: 7.30 Min: 4.50

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: sand
loamy fine sand
fine sand
sandy loam
fine sandy loam

Surficial Soil Types: sand
loamy fine sand
fine sand
sandy loam
fine sandy loam

Shallow Soil Types: sandy clay loam
sandy loam

Deeper Soil Types: fine sand
sand
loam

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	USGS2352166	1/8 - 1/4 Mile SW
2	USGS2352154	1/4 - 1/2 Mile South
3	USGS2352149	1/4 - 1/2 Mile SSW
A5	USGS2352086	1/2 - 1 Mile North
A6	USGS2352085	1/2 - 1 Mile North

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

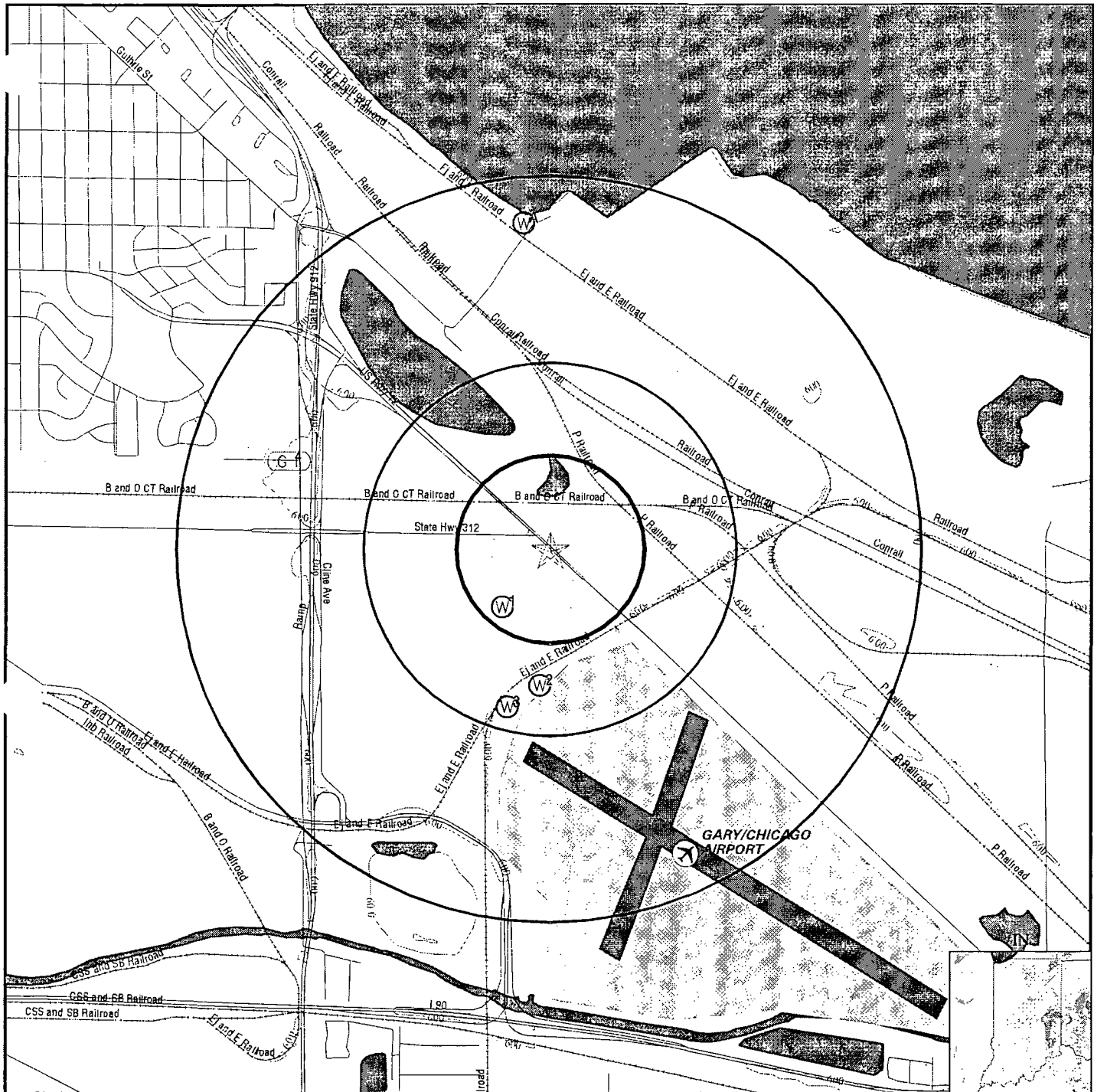
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

PHYSICAL SETTING SOURCE MAP - 01940968.2r



- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location

0 1/4 1/2 1 Miles

SITE NAME: Conservation Chemical Company
 ADDRESS: 6500 Industrial Highway
 Gary IN 46406
 LAT/LONG: 41.6281 / 87.4198

CLIENT: QEPI
 CONTACT: Nivas Vijay
 INQUIRY #: 01940968.2r
 DATE: May 30, 2007 3:08 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

1

SW
1/8 - 1/4 Mile
Higher

FED USGS USGS2352166

Agency cd:	USGS	Site no:	413733087252001
Site name:	WELL CGA-5 AT GARY AIRPORT, GARY, IN		
Latitude:	413733		
Longitude:	0872520	Dec lat:	41.62586917
Dec lon:	-87.42226258	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	18
State:	18	County:	089
Country:	US	Land net:	Not Reported
Location map:	WHITING IN 15A	Map scale:	24000
Altitude:	595.97		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.01		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Little CalumetGalien. Illinois, Indiana, Michigan. Area = 705 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	N		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	LAKE DEPOSITS		
Well depth:	Not Reported	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	441813900		
Real time data flag:	Not Reported	Daily flow data begin date:	Not Reported
Daily flow data end date:	Not Reported	Daily flow data count:	Not Reported
Peak flow data begin date:	Not Reported	Peak flow data end date:	Not Reported
Peak flow data count:	Not Reported	Water quality data begin date:	Not Reported
Water quality data end date:	Not Reported	Water quality data count:	Not Reported
Ground water data begin date:	Not Reported	Ground water data end date:	Not Reported
Ground water data count:	Not Reported		

Ground-water levels, Number of Measurements: 0

2

South
1/4 - 1/2 Mile
Higher

FED USGS USGS2352154

Agency cd:	USGS	Site no:	413722087251301
Site name:	WELL CGA-3 (NORTH), W. BORDER AIRPORT, GARY, IN		
Latitude:	413722		
Longitude:	0872513	Dec lat:	41.62281363
Dec lon:	-87.42031804	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	18
State:	18	County:	089
Country:	US	Land net:	NENWNES35T37NR09W
Location map:	HIGHLAND 15C	Map scale:	24000

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Altitude: 590.07
 Altitude method: Level or other surveying method
 Altitude accuracy: .01
 Altitude datum: National Geodetic Vertical Datum of 1929
 Hydrologic: Little CalumetGalien. Illinois, Indiana, Michigan. Area = 705 sq.mi.
 Topographic: Not Reported
 Site type: Ground-water other than Spring Date construction: Not Reported
 Date inventoried: Not Reported Mean greenwich time offset: EST
 Local standard time flag: N
 Type of ground water site: Single well, other than collector or Ranney type
 Aquifer Type: Unconfined single aquifer
 Aquifer: LAKE DEPOSITS
 Well depth: 23.01 Hole depth: Not Reported
 Source of depth data: reporting agency (generally USGS)
 Project number: 441813900
 Real time data flag: 0 Daily flow data begin date: 0000-00-00
 Daily flow data end date: 0000-00-00 Daily flow data count: 0
 Peak flow data begin date: 0000-00-00 Peak flow data end date: 0000-00-00
 Peak flow data count: 0 Water quality data begin date: 0000-00-00
 Water quality data end date: 0000-00-00 Water quality data count: 0
 Ground water data begin date: 1985-10-24 Ground water data end date: 1999-03-02
 Ground water data count: 46

Ground-water levels, Number of Measurements: 46

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1999-03-02	5.55		1998-12-15	5.89	
1998-07-14	5.82		1997-12-11	5.81	
1997-06-26	5.53		1997-04-03	5.67	
1996-07-10	4.92		1996-03-26	4.74	
1995-11-28	5.64		1995-01-25	5.53	
1994-11-09	5.13		1993-09-09	4.37	
1993-06-09	3.95		1993-03-17	4.48	
1992-12-09	4.76		1992-09-09	5.03	
1992-06-24	4.98		1992-04-01	4.48	
1992-01-15	4.57		1991-10-17	5.11	
1991-07-10	4.81		1991-03-20	4.14	
1990-11-28	3.81		1990-09-20	4.61	
1990-02-27	4.38		1989-08-01	4.93	
1989-04-20	4.71		1989-01-26	4.82	
1988-10-11	5.44		1988-07-05	5.3	
1988-04-01	4.51		1987-08-04	5.36	
1987-02-27	5.03		1986-12-30	5.05	
1986-09-25	5.3		1986-08-19	5.37	
1986-08-04	5.34		1986-07-24	5.26	
1986-06-09	5.07		1986-05-09	5.27	
1986-03-31	5.09		1986-03-06	5.09	
1986-02-17	5.09		1986-02-03	5.19	
1985-12-05	4.92		1985-10-24	5.26	

3
 SSW
 1/4 - 1/2 Mile
 Higher

FED USGS USGS2352149

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Agency cd: USGS Site no: 413719087251901
 Site name: WELL CGA-4 SOUTH, W. PERIM RD, AIRPORT AT GARY, IN
 Latitude: 413719
 Longitude: 0872519 Dec lat: 41.62198029
 Dec lon: -87.42198473 Coord meth: M
 Coord acc: S Latlong datum: NAD27
 Dec latlong datum: NAD83 District: 18
 State: 18 County: 089
 Country: US Land net: SWNNWNES35T37NR09W
 Location map: HIGHLAND 15C Map scale: 24000
 Altitude: 591.29
 Altitude method: Level or other surveying method
 Altitude accuracy: .01
 Altitude datum: National Geodetic Vertical Datum of 1929
 Hydrologic: Little CalumetGalien. Illinois, Indiana, Michigan. Area = 705 sq.mi.
 Topographic: Not Reported
 Site type: Ground-water other than Spring Date construction: Not Reported
 Date inventoried: Not Reported Mean greenwich time offset: EST
 Local standard time flag: N
 Type of ground water site: Single well, other than collector or Ranney type
 Aquifer Type: Unconfined single aquifer
 Aquifer: LAKE DEPOSITS
 Well depth: 23.75 Hole depth: Not Reported
 Source of depth data: reporting agency (generally USGS)
 Project number: 441813900
 Real time data flag: 0
 Daily flow data begin date: 0000-00-00
 Daily flow data end date: 0000-00-00
 Peak flow data begin date: 0000-00-00
 Peak flow data count: 0
 Water quality data begin date: 0000-00-00
 Water quality data end date: 0000-00-00
 Ground water data begin date: 1985-10-24
 Ground water data count: 48

Ground-water levels, Number of Measurements: 48

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1999-08-31	7.22		1999-06-29	6.54	
1999-03-02	6.01		1998-12-15	6.40	
1998-03-24	5.88		1997-12-11	6.27	
1997-06-26	6.24		1997-04-03	6.14	
1996-07-10	6.29		1996-03-26	6.11	
1995-11-28	5.99		1995-01-25	5.70	
1994-11-09	5.38		1993-09-09	5.78	
1993-06-09	5.35		1993-03-17	5.52	
1992-12-09	6.21		1992-09-09	6.59	
1992-06-24	6.41		1992-04-01	5.88	
1992-01-15	6.0		1991-10-17	6.29	
1991-07-10	6.22		1991-03-20	5.5	
1990-11-28	5.1		1990-09-20	6.02	
1990-02-27	5.79		1989-08-01	6.35	
1989-04-20	6.09		1989-01-26	6.21	
1988-10-11	7.1		1988-07-05	6.72	
1988-04-01	5.88		1987-08-04	6.8	
1986-12-30	6.45		1986-09-25	6.95	
1986-08-19	6.99		1986-08-04	6.84	
1986-07-24	6.72		1986-06-09	6.51	
1986-05-09	6.85		1986-03-31	6.63	
1986-03-20	6.46		1986-03-06	6.57	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1986-02-17	6.55		1986-02-03	6.78	
1985-12-05	6.46		1985-10-24	7.13	

4 WNW
1/2 - 1 Mile
Higher

Site ID: 6259
Groundwater Flow: NOT REPORTED
Water Table Depth: 4.0-6.0
Date: 12/01/91

AQUIFLOW 4165

A5
North
1/2 - 1 Mile
Higher

FED USGS USGS2352086

Agency cd: USGS Site no: 413828087251302
Site name: USGS WELL C4 @ BUFFINGTON HARBOR, E. CHICAGO IN
Latitude: 413826.63
Longitude: 0872516.08 Dec lat: 41.64076638
Dec lon: -87.42117394 Coor meth: M
Coor accr: S Latlong datum: NAD27
Dec latlong datum: NAD83 District: 18
State: 18 County: 089
Country: US Land net: NESWSES23T37NR9W
Location map: WHITING IN 15A Map scale: 24000
Altitude: 589.15
Altitude method: Level or other surveying method
Altitude accuracy: .01
Altitude datum: National Geodetic Vertical Datum of 1929
Hydrologic: Little CalumetGalien. Illinois, Indiana, Michigan. Area = 705 sq.mi.
Topographic: Dunes
Site type: Ground-water other than Spring Date construction: 19870617
Date inventoried: 19870617 Mean greenwich time offset: EST
Local standard time flag: N
Type of ground water site: Single well, other than collector or Ranney type
Aquifer Type: Unconfined single aquifer
Aquifer: DUNE DEPOSIT
Well depth: 15.0 Hole depth: 15.00
Source of depth data: driller
Project number: 441810700
Real time data flag: 0
Daily flow data begin date: 0000-00-00
Daily flow data end date: 0000-00-00
Peak flow data begin date: 0000-00-00
Peak flow data end date: 0000-00-00
Peak flow data count: 0
Water quality data begin date: 1987-07-09
Water quality data end date: 2004-10-27
Water quality data count: 4
Ground water data begin date: 1987-06-24
Ground water data end date: 2004-10-27
Ground water data count: 54

Ground-water levels, Number of Measurements: 54

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2004-10-27	9.30		2004-07-20	8.92	
2004-04-05	9.87		2004-01-07	10.23	
2003-07-09	9.88		2003-04-09	10.30	
2002-09-05	9.41		2002-07-10	8.64	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, continued.

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2002-03-27	9.38		2001-12-11	9.60	
2001-09-05	9.31		2001-06-06	9.17	
2001-04-10	9.55		2001-02-27	9.30	
2000-08-29	9.31		2000-06-28	9.15	
2000-03-29	9.82		2000-01-05	9.75	
1999-09-01	9.01		1999-06-29	7.41	
1999-03-03	7.48		1998-12-16	8.01	
1998-09-08	6.69		1998-07-13	6.93	
1997-12-12	7.72		1997-06-25	7.40	
1997-04-02	7.80		1996-03-26	9.51	
1995-11-29	8.90		1995-01-19	8.81	
1994-11-09	8.06		1993-09-09	7.74	
1993-06-11	7.07		1993-03-17	8.29	
1992-09-10	8.92		1992-06-23	8.91	
1992-04-02	8.52		1992-01-17	8.69	
1991-10-17	9.07		1991-07-11	8.60	
1991-03-20	8.41		1990-11-28	9.22	
1990-09-19	8.46		1990-05-31	8.29	
1990-02-28	8.65		1989-08-01	8.38	
1989-04-18	8.54		1989-01-24	9.14	
1988-10-11	8.77		1988-07-05	8.57	
1988-03-31	8.28		1987-08-04	7.59	
1987-07-09	7.53		1987-06-24	7.28	

A6
North
1/2 - 1 Mile
Higher

FED USGS USGS2352085

Agency cd:	USGS	Site no:	413828087251301
Site name:	USGS WELL C3 @ BUFFINGTON HARBOR, E. CHICAGO, IN		
Latitude:	413826.63	Dec lat:	41.64076638
Longitude:	0872516.08	Coor meth:	M
Dec lon:	-87.42117394	Latlong datum:	NAD27
Coor accr:	S	District:	18
Dec latlong datum:	NAD83	County:	089
State:	18	Land net:	NESWSES23T37NR9W
Country:	US	Map scale:	24000
Location map:	WHITING IN 15A		
Altitude:	589.07		
Altitude method:	Level or other surveying method		
Altitude accuracy:	.01		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Little CalumetGalien. Illinois, Indiana, Michigan. Area = 705 sq.mi.		
Topographic:	Dunes		
Site type:	Ground-water other than Spring	Date construction:	19870617
Date inventoried:	19870617	Mean greenwich time offset:	EST
Local standard time flag:	N		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	DUNE DEPOSIT		
Well depth:	30.0	Hole depth:	30.00
Source of depth data:	driller		
Project number:	441810700		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Peak flow data count: 0
 Water quality data end date: 1993-06-23
 Ground water data begin date: 1987-06-24
 Ground water data count: 54

Water quality data begin date: 1987-07-09
 Water quality data count: 4
 Ground water data end date: 2004-10-27

Ground-water levels, Number of Measurements: 54

Date	Feet below Surface	Feet to Sealevel
2004-10-27	9.18	
2004-04-05	9.74	
2003-07-09	9.73	
2002-09-05	8.28	
2002-03-27	9.24	
2001-09-05	9.18	
2001-04-10	9.43	
2000-08-29	9.17	
2000-03-29	9.63	
1999-09-01	8.79	
1999-03-03	8.12	
1998-09-08	7.34	
1997-07-17	7.33	
1997-04-02	7.66	
1995-11-29	8.86	
1994-11-09	8.15	
1993-06-11	7.05	
1992-09-10	8.88	
1992-04-02	8.47	
1991-10-17	9.03	
1991-03-20	8.36	
1990-09-19	8.44	
1990-02-28	8.62	
1989-04-18	8.51	
1988-10-11	8.78	
1988-03-31	8.22	
1987-07-09	7.44	

Date	Feet below Surface	Feet to Sealevel
2004-07-20	8.76	
2004-01-07	10.07	
2003-04-09	10.17	
2002-07-10	8.50	
2001-12-11	9.45	
2001-06-06	9.03	
2001-02-27	9.16	
2000-06-28	8.89	
2000-01-05	9.53	
1999-06-29	8.03	
1998-12-16	8.66	
1998-07-13	7.55	
1997-06-25	7.26	
1996-03-26	9.45	
1995-01-19	8.79	
1993-09-09	7.68	
1993-03-17	8.25	
1992-06-23	8.85	
1992-01-17	8.67	
1991-07-11	8.55	
1990-11-28	9.21	
1990-05-31	8.26	
1989-08-01	8.35	
1989-01-24	8.99	
1988-07-05	8.51	
1987-08-04	7.50	
1987-06-24	7.20	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

RADON

AREA RADON INFORMATION

State Database: IN Radon

Radon Test Results

City	County	Zip	Result
VALPARAISO	PORTER	46406	5.699999809265137
VALPARAISO	PORTER	46406	3.799999952316284

Federal EPA Radon Zone for LAKE County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
 : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 46406

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.500 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Public Water Supply Wells

Source: Department of Environmental Management

Telephone: 317-308-3323

Community and non-community drinking water wells.

OTHER STATE DATABASE INFORMATION

RADON

State Database: IN Radon

Source: Department of Health

Telephone: 317-233-7148

Radon Test Results

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

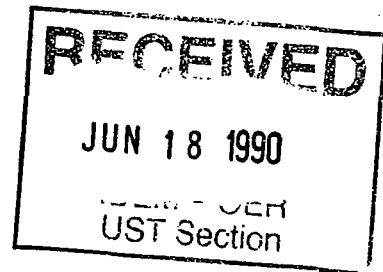
Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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ON-SCENE COORDINATORS' REPORT
CERCLA REMOVAL ACTION
WESTERN SCRAP
GARY, INDIANA
SITE ID# 1L

Delivery Order Nos. 7460-05-117
6894-04-072

Removal Dates: May 18, 1986 - March 16, 1989

Jack Bernette for WWS 6/4/90
William Simes Date
On-Scene Coordinator

Leonard Zintak 6/1/90
Leonard Zintak Date
On-Scene Coordinator

Emergency and Enforcement Response Branch
Office of Superfund
Waste Management Division
Region V
United States Environmental Protection Agency

EXECUTIVE SUMMARY

On May 13, 1986, the U.S. Environmental Protection Agency (U.S. EPA) initiated a removal action at the Western Scrap site in Gary, Indiana. The removal action was undertaken to mitigate threats to public health and environment posed by more than 300 drums, numerous pails and cans, and six tankers containing hazardous materials as defined by the Resource Conservation and Recovery Act (RCRA). The materials posed threats through the direct contact, fire and explosion, and inhalation and ingestion routes of exposure.

Under U.S. EPA guidance, the Emergency Response Cleanup Services (ERCS) contractor, PEI, subcontracted O.H. Materials to conduct the cleanup which consisted of sampling and staging soil, drums and pails, bulking and crushing drums and pails, removing contaminated soils, and transporting and disposing of all materials.

The removal was completed on March 16, 1989 at an estimated cost under control of the On-Scene Coordinators (OSCs) of \$340,461.27. The OSCs for this project were William Simes and Leonard Zintak.

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APPENDIX AA - Administrative Order
APPENDIX BB - Administrative Record Index
APPENDIX CC - Community Relations Plan
APPENDIX DD - TAT Site Inspection (Original: 8/85)

- * Portions of these OSC Report Appendices may contain confidential business or enforcement-sensitive information and must be reviewed by the Office of Regional Counsel prior to release to the public.

1.0 SUMMARY OF EVENTS

1.1 Initial Situation

The Western Scrap Site is part of an operating scrap yard located at 6500 Industrial Highway, Gary, Indiana. The site, which is approximately 20 acres in size, encompasses the location of the former Johnson Petroleum Refinery and more recently, the Berry Asphalt facility. The site is bounded by Conservation Chemical to the south, the Elgin, Joliet and Eastern Railroad to the east, Chicago Avenue to the west, and Industrial Highway to the north (Figure 1). The site is located in an industrial area with an unsecured entrance on Industrial Highway (Figure 2).

The property was owned by Total Leonard, which sold it in 1975 to Wayne Waggoner. The property was bought in 1979 by its present owner, Mrs. Constance Couloupoulos, a Boston, Massachusetts attorney. The land is rented to Western Scrap by verbal agreement.

The site contained approximately 300 drums, numerous pails and cans, and six tankers. This property is leased to the Western Scrap metal dealer as part of their scrap business. According to an employee from Western Scrap, the adjacent and formerly operational Conservation Chemical Company was responsible for depositing the drums on site.

1.2 Site History

On August 12 and 15, 1985, TAT representatives and a U.S. Environmental Protection Agency (U.S. EPA) On-Scene Coordinator (OSC) performed a site inspection of Western Scrap. The site assessment report documented the presence of approximately 300 55-gallon drums, six tankers, numerous pails and cans, and a metal shed containing numerous rusted 5-gallon pails. Pail labels indicated the contents to be printing ink. An area encompassing approximately 300 square feet, containing two large surface deposits of waste was also observed.

In September 1985, TAT assisted the OSC and U.S. EPA Emergency Response Team (ERT) with sampling activities at the Western Scrap site. Drums and tanks were sampled and analyzed for extraction procedure (EP) toxicity, ignitability, corrosivity, and reactivity characteristics. None of the drum and tank samples containing solids were found to be EP toxic for pesticides or heavy metals, and none of the drum and tank samples analyzed exhibited corrosive properties. Two drum samples analyzed for reactivity indicated the presence of cyanide when exposed to pH conditions between 2 and 12. Samples from drums with liquids exhibited flash points at ambient temperature (76°F). In addition, two other drum samples exhibited flash points less than the RCRA 140°F ignitability level.

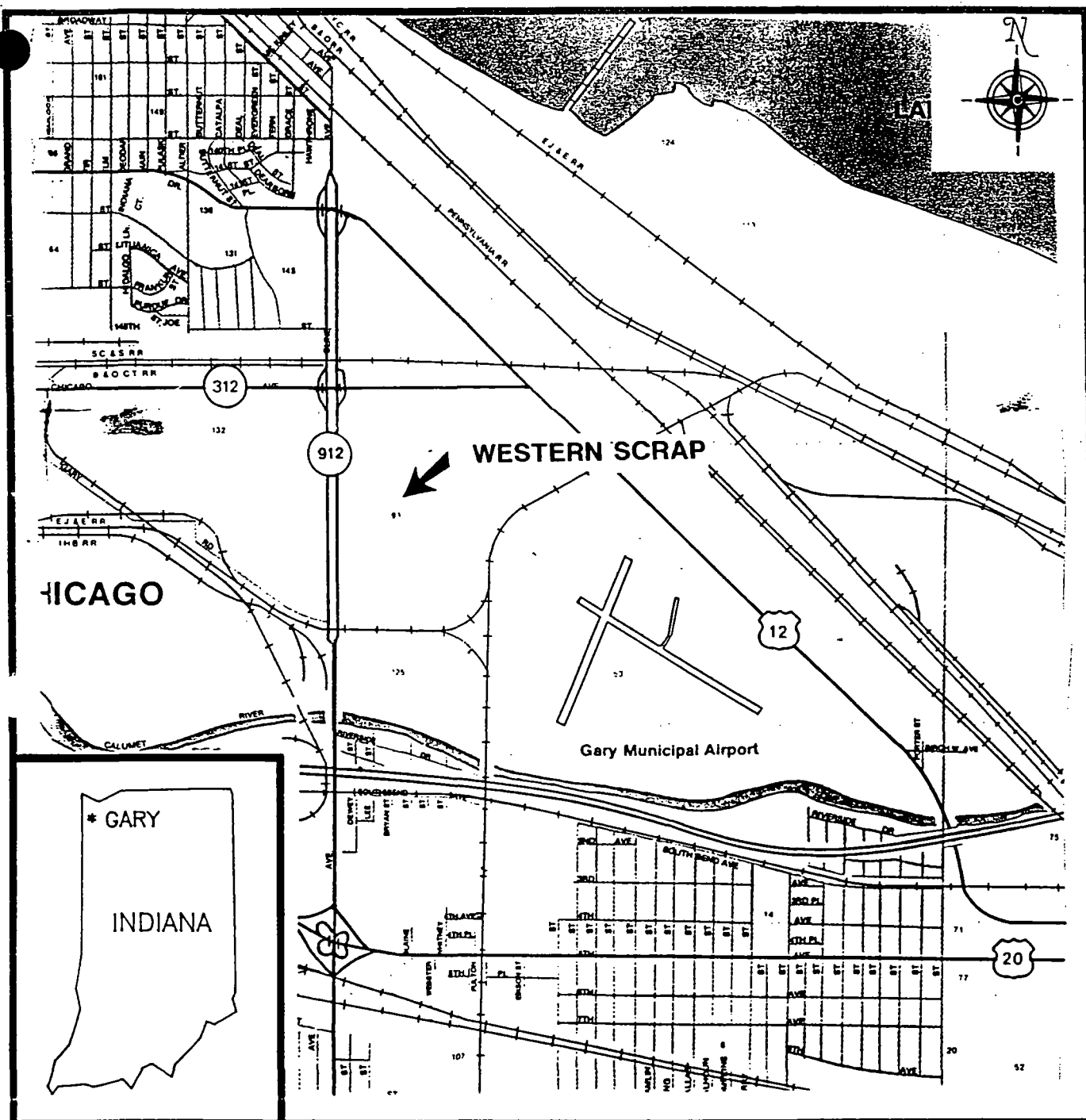
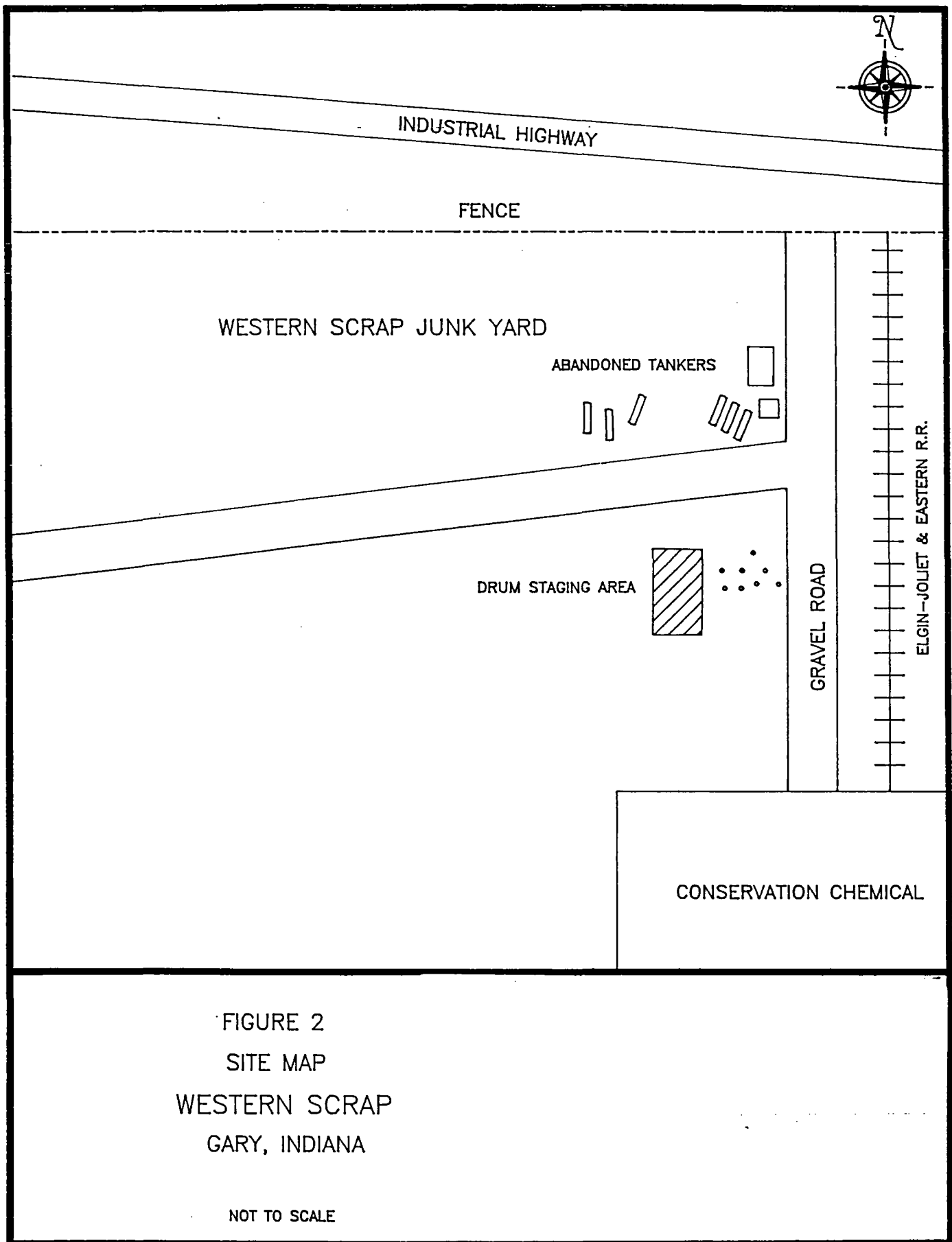


FIGURE 1
SITE LOCATION MAP
WESTERN SCRAP
GARY, INDIANA

SCALE: 1 INCH = 1 1/2 MILE



1.3 Threat to Public Health and the Environment

Based on the site investigation and the results of the analytical data, conditions at Western Scrap posed a threat to human health and the environment and warranted a removal action as outlined in Section 300.65(b)(2) of the National Contingency Plan (NCP). Specifically, the following conditions existed at Western Scrap:

- o Actual or potential exposure to hazardous substances or pollutants or contaminants by nearby populations, animals, or food chain;
- o Hazardous substances or pollutants or contaminants in drums, barrels, tanks or other bulk storage containers, that may pose a threat of release;
- o Threat of fire or explosion.

Section 300.65(b)(2)(i) of the NCP authorizes a removal action where "actual or potential exposure to hazardous substances or pollutants or contaminants by nearby populations, animals or food chain" exists. At the Western Scrap site, the presence of drums containing PCBs, cyanide, sulfides, and solvents pose a substantial threat of immediate exposure to humans and animals via direct skin contact, inhalation or ingestion. PCBs are suspected human carcinogens. The site is unsecured, and hunters and motorcyclists have easy access to the wastes on site.

Section 300.65(b)(2)(iii) of the NCP authorizes a removal action where "hazardous substances or pollutants or contaminants in drums, barrels, tanks or other bulk storage containers, that may pose a threat of release" exist. The presence of toxic, flammable and corrosive liquids in degraded drums pose a threat of release of hazardous substances to the air and the surrounding soil at the site.

Section 300.65(b)(2)(vi) of the NCP authorizes a removal action where the "threat of fire or explosion" exists. Under 40 CFR Section 261.21, a waste is classified as a hazardous waste and poses a fire or explosion threat if it exhibits the characteristic of ignitibility. Many drums at the Western Scrap site contain flammable liquids with flashpoints of less than 140 degrees Fahrenheit and therefore exhibit the characteristic of ignitibility. A fire or explosion at the site could create an emergency situation.

Since access to the site is unrestricted, the potential also exists for direct contact with the drummed material.

1.4 Attempts to Obtain a PRP Response

On June 17, 1986, a Unilateral Section 106 Administrative Order was sent to the potentially responsible parties (PRPs) associated with the Western Scrap site. The Order was amended on June 30, 1986, and later September 12, 1986, to exclude PRPs who were no longer considered to be generators. At that time, there appeared to be seven PRPs associated with the site.

Owner - Mrs. Constance Coulopoulos, current owner of the property.

Operator - Mr. John Coule, operator of Western Scrap Corporation.

Generators - U.S. Polychemical Corporation
Franklin Maintenance Corporation
Conservation Chemical Company
American Lacquer Solvent Company
Norman B. Hjersted

The PRPs to date have not indicated any willingness to participate in the cleanup.

1.5 Actions Taken

On May 8, 1986, an Action Memorandum was signed by the Regional Administrator. On May 13, 1986, the U.S. EPA commenced a removal action at Western Scrap. The project ceiling for the removal action was \$226,200. Activities included sampling and staging of soil, drums and pails; consolidation of compatible materials; crushing of drums and pails; removal of contaminated soils; and arrangements for transportation and disposal of all material. Significant disposal delays were encountered in obtaining waste acceptance at Resource Conservation and Recovery Act (RCRA) compliant facilities. Recompositing of previously acquired samples was required to obtain waste acceptance at alternate disposal facilities which comply with the Superfund off-site policy. The removal action was coordinated by the Emergency Response Cleanup Services (ERCS) contractor, PEI, Inc. of Cincinnati, Ohio, under Delivery Order Nos. 7460-05-117 and 6894-04-072. PEI subcontracted O.H. Materials of Findlay, Ohio to conduct the clean-up action.

On August 15, 1988, a second Action Memorandum requesting a 12-month exemption and a \$70,000 project ceiling increase was approved to complete the site cleanup.

1.5.1 Compatibility Testing and Drum Sampling

Compatibility testing for waste stream assignment was performed by Aqualab and was completed in September 1986. Drum sampling for disposal acceptance was conducted by the TAT and ERCS contractors and was completed in August 1987. Transport of the wastes off site was initiated in December 1987.

1.5.2 Drum Overpacking and Disposal

During the removal and disposal phase of the cleanup, which commenced on December 14, 1987, many of the staged drums had deteriorated, and required overpacking. Following this overpacking activity, seven waste streams containing 115 drums were transported off site (Table 1).

Following the removal of these waste streams, 85 drums still remained on site for which disposal acceptance had not been obtained and compatibility testing had not been done. O.H. Materials sampled a 5-gallon pail from the shed, and the drums for compatibility and disposal acceptance, but due to time constraints (end of the calendar year) and freezing weather conditions, the removal was not completed, and the contractor demobilized on December 29, 1987.

1.5.3 Sampling of Additional Drums

On August 4 and 5, 1988, PEI remobilized to the site to sample 85 drums that were not addressed during the December 1987 phase of the removal. Because it was agreed that an error had been made, all sampling and site costs were non-billable for these two days.

1.5.4 Paint Can Overpacking and Drum Removal

On October 31 and November 1, 1988, O.H. Materials remobilized to the site to crush and overpack the 5-gallon paint/ink-containing cans, and remove the remaining waste streams. The paint cans were crushed and consolidated into overpack drums. Five additional waste streams in 33 overpack drums were transported to Adams Center Landfill and ThermalKem for disposal.

1.5.5 Rolloff Removal

On November 29, 1988, O.H. Materials remobilized to the site to load and dispose of two-25 cubic yard-rolloff boxes. Each rolloff box contained non-hazardous debris (crushed drums and PPE), and were disposed of at Adams Center Landfill.

1.5.6 Final Removal Activity

The TAT and OSC returned to the site on March 15, 1989 to oversee the removal of the final five drums remaining on site. While loading, the Metropolitan driver who would be transporting the drums, noted that two of the drums were either leaking or in poor physical condition. Subsequently, transport of the drums was delayed one day.

TABLE 1
HAZARDOUS WASTE MANIFESTED OFF SITE

<u>WASTE CATEGORY</u>	<u>QUANTITY</u>	<u>DATES REMOVED</u>	<u>DISPOSAL SITE</u>	<u>TRANSPORTER</u>
Non Regulated Waste	8350 lbs.	12/17/87	Adams Center Landfill Ft. Wayne, Indiana	SET Environmental
Waste Corrosive Liquid N.O.S. Corrosive Material UN1760	440 gal.	12/17/87	Chem Clear, Chicago, Illinois	SET Environmental
Non Hazardous Non Regulated	660 gal.	12/17/87	Chem Clear	SET Environmental
Hazardous Waste Solid N.O.S. ORM-E NA 9189	15 cyd.	12/17/87	SCA Chem Services Chicago, Illinois	SET Environmental
Waste Flammable Solid N.O.S. Flammable Solid UN 1325	30250 lbs.	12/18/87	ThermalKEM, Rock Hill, South Carolina	Metropolitan Environmental
Waste Flammable Liquid N.O.S. Flammable Liquid UN 1993	5500 gal.	12/18/87	ThermalKEM	Metropolitan Environmental
Waste Flammable Liquid N.O.S. Flammable Liquid UN 1993	23650 gal.	12/18/87	ThermalKEM	Metropolitan Environmental
Waste Flammable Liquid N.O.S. Flammable Liquid UN 1993	550 gal.	12/18/87	ThermalKEM	Metropolitan Environmental
Non Regulated Waste	3848 lbs.	12/18/87	Adams Center Landfill	SET Environmental
Waste Flammable Liquid N.O.S. Flammable Liquid UN 1993	12645 gal.	12/22/87	ThermalKEM	Metropolitan Environmental
RQ Waste Hazardous Subst. N.O.S., ORM-E (Polychloro- inated biphenyls) NA 9189	375 lbs.	12/29/87	National Electric Coffeyville, Kansas	SET Environmental
Non-Hazardous Waste Water	110 gal.	11/01/88	Chem Clear	SET Environmental

TABLE 1 (cont)

<u>WASTE CATEGORY</u>	<u>QUANTITY</u>	<u>DATES REMOVED</u>	<u>DISPOSAL SITE</u>	<u>TRANSPORTER</u>
Waste Flammable Liquid N.O.S. Flammable Liquid UN 1993	715 gal.	11/01/88	ThermalKEM	SET Environmental
Waste Flammable Solid N.O.S. Flammable Solid UN 1325	605 gal.	11/01/88	ThermalKEM	SET Environmental
Waste Corrosive Liquid N.O.S. Corrosive Liquid UN 1760	55 gal.	11/01/88	ThermalKEM	SET Environmental
Hazardous Waste Solid N.O.S. ORM-E NA 9188	1815 gal.	11/01/88	ThermalKEM	SET Environmental
Non-Hazardous Debris	25 cyd.	11/29/88	Adams Center Landfill	SET Environmental
Non-Hazardous Debris	32280 cyd.	11/29/88	Adams Center Landfill	SET Environmental
Waste Flammable Liquid N.O.S. Flammable Liquid UN 1993	5500 gal.	12/18/88	ThermalKEM	Metropolitan Environmental
Waste Flammable Liquid N.O.S. Flammable Liquid UN 1993	55 gal.	03/16/89	ThermalKEM	Metropolitan Environmental
Waste Flammable Solid N.O.S. Flammable Solid IN 1325	350 lbs.	03/16/89	ThermalKEM	Metropolitan Environmental
Hazardous Waste Solid N.O.s. ORM-E NA 9189	350 lbs.	03/16/89	ThermalKEM	Metropolitan Environmental
Hazardous Waste Liquid N.O.S. ORM-E NA 9189	110 gal.	03/16/89	ThermalKEM	Metropolitan Environmental

O.H. Materials was mobilized to the site on March 16, 1989, and re-overpacked the two drums. The five-drum load, containing four waste streams, was transported to ThermalKem.

1.5.7 Demobilization

At the conclusion of each removal action phase, all crew and equipment were demobilized. All on-site cleanup activities were completed on March 16, 1989, and all equipment was demobilized. Rented equipment was decontaminated and either returned to or retrieved by the rental companies.

1.5.8 State and Local Efforts to Clean Up the Site

Due to budgetary constraints, State and local agencies were unable to fund the cleanup activities; their efforts were limited to keeping abreast of the site's status via intermittent site visits.

1.6 Community Relations

The proximity of the site to industrial areas, the threat of release of hazardous material into the environment, and the fire risk posed by the site brought the site to local attention. In response to these problems, the U.S. EPA began a removal action at the site, increasing local interest in the site. OSCs Bill Simes and Len Zintak worked a great deal to maintain good communications with local officials and citizens. The U.S. EPA has initiated a formal community relations plan for the site which is ongoing.

1.7 Cost Summary

Although PEI was the prime ERCS contractor for the Western Scrap cleanup, all on-site activities with the exception of the non-billable sampling were subcontracted to OHM by PEI. Site activities commenced on May 16, 1986 (Contract #68-01-6894, D.O. #6895-05-072) and concluded on March 16, 1989. During this period, a second action memorandum was approved and an additional delivery order issued (Contract #68-01-7460, D.O. #7460-05-117). As of June 9, 1989, total expenditures submitted by O.H. Materials totalled \$262,090.07. In addition, costs were incurred by the TAT (TDD#s 5-8605-13, 5-8610-38, 5-8612-30, 5-8701-11, 5-8702-09, 5-8702-09A, 5-8810-08) and U.S. EPA (Table 2). Total removal costs are estimated at \$340,461.27.

Any indication of specific costs incurred at the site is only an approximation, subject to audit and final definitization by the U.S. EPA. The OSC report is not meant to be a final reconciliation of the costs associated with a particular site.

TABLE 2

SUMMARY OF TOTAL REMOVAL COSTS*
WESTERN SCRAP, GARY, INDIANA

MAY 13, 1986 - MARCH 16, 1989

<u>Organization</u>	<u>Amount</u>
ERCS Contractor ¹	\$262,090.07
EPA Costs ²	
Direct	9,699.24
Indirect	25,571.30
TAT Costs ³	<u>43,100.66</u>
 TOTAL	 \$340,461.27

1 Based on estimated costs from U.S. EPA forms 1900-55.

2 Based on Superfund Financial Management Cumulative Cost Summary prepared 12/11/89.

3 TAT costs (TDD#s 5-8605-13; 5-8610-38; 5-8612-30; 5-8701-11; 5-8702-09; 5-8702-09A; 5-5-8810-08) given by the TAT through 4/27/90.

* Any indication of specific costs incurred at the site is only an approximation, subject to audit and final definitization by the U.S. EPA. The OSC Report is not meant to be a final reconciliation of the costs associated with a particular site.

2.0 EFFECTIVENESS OF REMOVAL ACTION

2.1 Responsible Parties

A Unilateral Section 106 Administrative Order was sent to the PRPs, who were unwilling to participate in the cleanup. Subsequently, the U.S. EPA performed all clean-up activities and will be taking action to recover costs incurred during the site cleanup.

2.2 State and Local Agencies

As presented in Section 1.5.8, State and local officials were unable to fund a site cleanup due to budgetary constraints. Their involvement with the site cleanup was limited to intermittent site visits in order to keep abreast of the site's status.

2.3 Federal Agencies

The U.S. EPA provided all monetary resources for the removal action at the Western Scrap site. Under direct guidance of the OSC, the cleanup effectively removed existing environmental and public health threats posed by the site.

3.0 PROBLEMS ENCOUNTERED

3.1 Extreme Weather Conditions

Extremely cold temperatures were encountered during the December 1987 phase of the cleanup. Due to the cold weather, frozen drum contents had to be heated and thawed so samples could be collected. A temporary wood and visqueen shed was erected, the frozen drums were placed inside, and heat was applied. Once thawed, drums were sampled.

3.2 Damaged Overpacks

Two damaged overpacks were discovered during the final phase of the removal which occurred March 15 and 16, 1989, rendering them untransportable. Shipment of the entire load was delayed one day so O.H. Materials could be mobilized to the site to re-overpack the drums.

4.0 OSC RECOMMENDATIONS

Removal of hazardous materials effectively mitigated threats to human health and the environment posed by hazardous materials at the site.

Since freezing weather conditions complicated and delayed sampling of drums at the site, the OSC recommends that sampling not be conducted at freezing temperatures, time permitting.

CERCLIS EXECUTIVE SUMMARY

EPA ID# IND095258075 WINDSHIELD SURVEY YES X NO

Original Company Name: Western Scrap Corporation

Revised Company Name: _____

Alias Names: _____

Original X Address: 6901 W. Chicago
Corrected _____ Gary, IN 46406
Lake County

Landfill Generator Treatment, Storage, Disposal (TSD)
Transporter X Other: Salvage

PRIORITY ASSESSMENT: HIGH MEDIUM LOW X NO FURTHER ACTION (NONE)

CLASS:
I-STATE LEAD II-REM/FIT LEAD III-REM/FIT LEAD X IV OTHER:
State Accompanies Limited On-site None
FIT State Involvement

Priority Justification and State Comments Regarding:

X PA SI Follow-up SI RPS HRS

According to Lin Zintach U.S. EPA Emergency Response Region V, approximately 100 drums of paint waste and solvents have been stored on the Western Scrap Corporation property.

EPA is currently in the process of removing the drums, to an approved disposal area. The clean-up should be completed by July 1987.

At this time, the State is recommending no further action pending proper cleanup of hazardous wastes.

STATE INVOLVEMENT -

C Preliminary Assessments Site Inspection follow-up Site Inspection
Responsible Party Search Hazard Ranking System (HRS)

* COMPLETE DOCUMENTS (C) REVIEW DOCUMENTS (R)

Prepared by: Alan Freed 64E Phone: 317/232-8931 Date: 5/29/87
Activity Time: 20 Hours



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
IN 095258075

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) Western Scrap Corporation		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER 6901 W. Chicago			
03 CITY Gary	04 STATE IN	05 ZIP CODE 46406	06 COUNTY Lake	07 COUNTY CODE 089	08 CONG DIST 01
09 COORDINATES LATITUDE 41° 37' 40" N		LONGITUDE 087° 25' 10" W		Whiting Ind. Quad	

10 DIRECTIONS TO SITE (Starting from nearest public road)

Location is directly north of the Gary Airport on the corner of Hwy 12 and Chicago Avenue.

III. RESPONSIBLE PARTIES

01 OWNER (If known) Peter Coules		02 STREET (Business, mailing, residential) same			
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER (219) 944-9749		
07 OPERATOR (If known and different from owner) same		08 STREET (Business, mailing, residential)			
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER ()		

13 TYPE OF OWNERSHIP (Check one)

☒ A. PRIVATE ☐ B. FEDERAL: _____ (Agency name) ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER: _____ (Specify) ☐ G. UNKNOWN

14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply)

☐ A. RCRA 3001 DATE RECEIVED: ____/____/____ MONTH DAY YEAR ☐ B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ____/____/____ MONTH DAY YEAR ☒ C. NONE

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION <input checked="" type="checkbox"/> YES DATE ____/____/86 MONTH DAY YEAR <input type="checkbox"/> NO		BY (Check all that apply) <input checked="" type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input type="checkbox"/> C. STATE <input type="checkbox"/> D. OTHER CONTRACTOR <input type="checkbox"/> E. LOCAL HEALTH OFFICIAL <input type="checkbox"/> F. OTHER: _____ (Specify) CONTRACTOR NAME(S): _____			
02 SITE STATUS (Check one) <input checked="" type="checkbox"/> A. ACTIVE <input type="checkbox"/> B. INACTIVE <input type="checkbox"/> C. UNKNOWN		03 YEARS OF OPERATION BEGINNING YEAR _____ ENDING YEAR _____ <input checked="" type="checkbox"/> UNKNOWN			

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Paint waste, solvents Toxic/volatile

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Groundwater > Environment
Direct Contact > Population

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)

☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☒ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT Harry Atkinson 10.6/8		02 OF (Agency/Organization) Ind. Dept. of Env. Mgmt		03 TELEPHONE NUMBER 317 232-8927	
04 PERSON RESPONSIBLE FOR ASSESSMENT Alan Freed AF		05 AGENCY IDEM	06 ORGANIZATION SHWM	07 TELEPHONE NUMBER (317) 232-8931	08 DATE 4 / 27 / 87 MONTH DAY YEAR



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
IN 095258075

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) Western Scrap Corporation		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER 6901 W. Chicago			
03 CITY Gary	04 STATE IN	05 ZIP CODE 46406	06 COUNTY Lake	07 COUNTY CODE 089	08 CONG DIST 01
09 COORDINATES LATITUDE 41° 37' 40" N		LONGITUDE 087° 25' 10" W		Whiting Ind. Quad	
10 DIRECTIONS TO SITE (Starting from nearest public road) Location is directly north of the Gary Airport on the corner of Hwy 12 and Chicago Avenue.					

III. RESPONSIBLE PARTIES

01 OWNER (If known) Peter Coules		02 STREET (Business, mailing, residential) same			
03 CITY	04 STATE	05 ZIP CODE	06 TELEPHONE NUMBER (219) 944-9749		
07 OPERATOR (If known and different from owner) same		08 STREET (Business, mailing, residential)			
09 CITY	10 STATE	11 ZIP CODE	12 TELEPHONE NUMBER ()		
13 TYPE OF OWNERSHIP (Check one) <input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL: _____ (Agency name) <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER: _____ (Specify) <input type="checkbox"/> G. UNKNOWN					
14 OWNER/OPERATOR NOTIFICATION ON FILE (Check all that apply) <input type="checkbox"/> A. RCRA 3001 DATE RECEIVED: ____/____/____ <input type="checkbox"/> B. UNCONTROLLED WASTE SITE (CERCLA 103 c) DATE RECEIVED: ____/____/____ <input checked="" type="checkbox"/> C. NONE					

IV. CHARACTERIZATION OF POTENTIAL HAZARD

01 ON SITE INSPECTION <input checked="" type="checkbox"/> YES DATE ____/____/86 <input type="checkbox"/> NO		BY (Check all that apply) <input checked="" type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input type="checkbox"/> C. STATE <input type="checkbox"/> D. OTHER CONTRACTOR <input type="checkbox"/> E. LOCAL HEALTH OFFICIAL <input type="checkbox"/> F. OTHER: _____ (Specify) CONTRACTOR NAME(S): _____			
02 SITE STATUS (Check one) <input checked="" type="checkbox"/> A. ACTIVE <input type="checkbox"/> B. INACTIVE <input type="checkbox"/> C. UNKNOWN		03 YEARS OF OPERATION BEGINNING YEAR _____ ENDING YEAR _____ <input checked="" type="checkbox"/> UNKNOWN			

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Paint waste, solvents Toxic/volatile

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Groundwater > Environment
Direct Contact > Population

V. PRIORITY ASSESSMENT

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Waste Information and Part 3 - Description of Hazardous Conditions and Incidents)
☐ A. HIGH (Inspection required promptly) ☐ B. MEDIUM (Inspection required) ☐ C. LOW (Inspect on time available basis) ☒ D. NONE (No further action needed, complete current disposition form)

VI. INFORMATION AVAILABLE FROM

01 CONTACT Harry Atkinson JA. 6/18	02 OF (Agency/Organization) Ind. Dept. of Env. Mgmt		03 TELEPHONE NUMBER (317) 232-8927	
04 PERSON RESPONSIBLE FOR ASSESSMENT Alan Freed AF	05 AGENCY IDEM	06 ORGANIZATION SHWM	07 TELEPHONE NUMBER (317) 232-8931	08 DATE 4/27/87 MONTH DAY YEAR



POTENTIAL HAZARDOUS WASTE SITE
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE

02 SITE NUMBER

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION

03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☐ POTENTIAL

☐ ALLEGED

01 ☐ B. SURFACE WATER CONTAMINATION

03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☐ POTENTIAL

☐ ALLEGED

01 ☐ C. CONTAMINATION OF AIR

03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☐ POTENTIAL

☐ ALLEGED

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS

03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☐ POTENTIAL

☐ ALLEGED

01 ☐ E. DIRECT CONTACT

03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☐ POTENTIAL

☐ ALLEGED

01 ☐ F. CONTAMINATION OF SOIL

03 AREA POTENTIALLY AFFECTED: _____
(Acres)

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☐ POTENTIAL

☐ ALLEGED

01 ☐ G. DRINKING WATER CONTAMINATION

03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☐ POTENTIAL

☐ ALLEGED

01 ☐ H. WORKER EXPOSURE/INJURY

03 WORKERS POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☐ POTENTIAL

☐ ALLEGED

01 ☐ I. POPULATION EXPOSURE/INJURY

03 POPULATION POTENTIALLY AFFECTED: _____

02 ☐ OBSERVED (DATE: _____)

04 NARRATIVE DESCRIPTION

☐ POTENTIAL

☐ ALLEGED



Adams Center Sanitary Landfill, Inc.
4636 Adams Center Road
Fort Wayne, Indiana 46806
219/447-5585

611

OCT 27 11 38 AM '88

OFFICE OF SOLID
AND HAZARDOUS
WASTE MGMT
DEM

October 25, 1988

State of Indiana
Department of Environmental Management
105 S. Meridian Street
Indianapolis, IN 46225
Attn: George Oliver

Dear Mr. Oliver:

This letter serves as notification to dispose of the referenced non-RCRA waste in the RCRA portion of the Adams Center Sanitary Landfill in Fort Wayne, Indiana, in accordance with the Indiana Department of Environmental Management Special (non-RCRA) waste permit.

Disposal approval for the described material will be granted on the 10th working day from your receipt of this letter, unless Adams Center is notified in advance of a denial under condition 5 or 6 of the Special Waste Permit. This approval will expire one year from the date of approval.

Attached is a Chemical Waste Management, Inc. profile sheet and corresponding analytical data for the following request information:

GENERATOR NAME: USEPA/Western Scrap
FACILITY ADDRESS: 6500 Industrial Hwy-Gary, IN 46406
TECHNICAL CONTACT: Len Zintak
PHONE NUMBER: 312/886-4246
WASTE NAME: Contaminated soil
PROFILE NUMBER: ACL J09445
ANNUAL VOLUME: 40 yards
RECERTIFICATION: OR NEW PERMIT: X

Should you have questions concerning this notification, please contact the Customer Service Department at (219) 447-5585.

Respectfully,

Deborah L. Muench

Deborah L. Muench
Customer Service Representative

cc: file
sales-153
DCS
Nancy Bittner

Date Rec'd 10/27/88
Date Approved _____
Date Expires 11/14/88
Letter Reference No. 611



SPECIAL WASTE ANALYSIS REPORT



LOCATION OF ORIGINAL
CWM of IN, Inc.

This Report is intended for the sole use and benefit of Waste Management and its companies. No representation concerning significance of the reported data is made to any other person or entity.

ACL J09445
Waste Profile Sheet Code
FROM SAMPLE CONTAINER

LABORATORY NAME: CHEMICAL WASTE MANAGEMENT OF INDIANA, INC. Adams Center Laboratory
 ADDRESS: 4636 Adams Center Road, Fort Wayne, Indiana 46806 LAB MGR. PHONE: (219) 447-5585
 DATE SAMPLE RECEIVED AT LAB: 10/4/88 DATE SAME TAKEN: _____
 LAB SAMPLE NUMBER ASSIGNED: 10048-01 CERTIFICATION OF REP. SAMPLE OBTAINED? ☐ YES ☐ NO
 CERTIFICATION: Except as explicitly noted, all analytical data reported below were obtained under my direction and supervision. For Chemical Waste Management, Inc. companies, sample preparation and analytical methods and analytical equipment specified or approved in the facility's waste analysis plan were used in conducting this analysis. This laboratory follows a quality assurance control program.
 DATE OF REPORT: 10/12/88 SIGNATURE: [Signature]
 LAB MANAGER NAME: John D. Van Vleet

PHYSICAL CHARACTERISTICS OF WASTE					
SAMPLE VOLUME	COLOR	DOES THE WASTE HAVE A STRONG INCIDENTAL ODOR?	PHYSICAL STATE @ 70°F	LAYERS	FREE LIQUIDS
1000 cc's	Brown Soil	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF KNOWN, DESCRIBE _____	<input checked="" type="checkbox"/> SOLID <input type="checkbox"/> SEMI-SOLID <input type="checkbox"/> LIQUID <input type="checkbox"/> POWDER	<input type="checkbox"/> MULTILAYERED <input type="checkbox"/> BI-LAYERED <input checked="" type="checkbox"/> SINGLE PHASED	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO VOLUME: _____ %

✓	Test	As Received	Extraction Procedure	Date of Analysis	✓	Test	As Received	Extraction Procedure	Date of Analysis
	Specific Gravity					Sulfur, as S, %			
	PH, s.u. 10% by Volume	6.6		10-11-88 [Signature]		Phenols, mg/l			
	Acidity, %, as					Cyanides, as CN, Total mg/l			
	Alkalinity, %, as					Cyanides, as CN, Free mg/l			
	C.O.D., mg/l					Ammonia Nitrogen, as N, mg/l			
	B.O.D., mg/l					Total Kjeldahl Nitrogen, as N, mg/l			
	Total Solids @ 105°C, %	299.5		10-7-88 [Signature]		Total Alkalinity, P, as CaCO ₃ , mg/l			
	Total Dissolved Solids, mg/l					Total Alkalinity, M, as CaCO ₃ , mg/l			
	R.O.E. @ 180°C, mg/l					Total Hardness, as CaCO ₃ , mg/l			
	Bulk Density (g/cc)	1.07		10-11-88 [Signature]		Calcium Hardness, as CaCO ₃ , mg/l			
	Flash Point, °F (closed cup)					Magnesium Hardness, as CaCO ₃ , mg/l			
	Ash Content, on ignition, %	89.4		10-7-88 [Signature]					
	Heating Value, BTU/lb					Oil and Grease, mg/l			
	Arsenic, as As, mg/l					Paint Filter Test, Pass/Fail	PASS		10-11-88 [Signature]
	Barium, as Ba, mg/l					Water Content, as H ₂ O, %			
	Cadmium, as Cd, mg/l								
	Chromium, Total, as Cr, mg/l					Aldrin, mg/l			
	Chromium, Hexavalent, as Cr ⁶⁺ , mg/l					Chlordane, mg/l			
	Cobalt, as Co, mg/l					DDT, mg/l			
	Copper, as Cu, mg/l					Dieldrin, mg/l			
	Iron, Total, as Fe, mg/l					Heptachlor, mg/l			
	Iron, Dissolved, as Fe, mg/l					Parathion, mg/l			
	Lead, as Pb, mg/l					Endrin, mg/l			
	Manganese, as Mn, mg/l					Lindane, mg/l			
	Magnesium, as Mg, mg/l					Methoxychlor, mg/l			
	Mercury, as Hg, mg/l					Toxaphene, mg/l			
	Nickel, as Ni, mg/l					2,4-D, mg/l			
	Selenium, as Se, mg/l					2,4,5-TP (Silvex), mg/l			
	Silver, as Ag, mg/l					PCBs, mg/l			
	Thallium, as Tl, mg/l								
	Zinc, as Zn, mg/l								
	Bicarbonates, as HCO ₃ , mg/l					pH Screen, s.u.	10% paper		
	Bromides, as Br, mg/l					Cyanide Screen, Pos/Neg	NEG	<100 ppm	10-11-88 [Signature]
	Carbonates, as CO ₃ , mg/l					Flammability Screen, Pos/Neg	NEG		
	Chlorides, as Cl, mg/l					Oxidizer Screen, (+/-)			
	Fluorides, as F, mg/l					Radiation Screen, Pos/Bkg	✓ BKG		
	Nitrates, as NO ₃ , mg/l					Sulfide Screen, Pos/Neg	NEG	<50 ppm	
	Nitrites, as NO ₂ , mg/l					Water Mix Screen, WSDL SIF	0.23		
	Phosphates, as P, mg/l					Penetrometer (tn/ft ²)			
	Sulfates, as SO ₄ , mg/l								
	Sulfides, as S, mg/l								

SUBURBAN LABORATORIES, Inc.

4140 LITT DRIVE

HILLSIDE, ILLINOIS 60162 - 1183

EARL I. ROSENBERG
PresidentH.R. THOMAS, JR.
Director

January 18, 1988

RECEIVED
JAN 21 1988PEI Associates, Inc.
11499 Chester Road
Cincinnati Ohio 45246

PEI ASSOCIATES, INC.

Attn: Mr. Paul Kefauver

By _____

Re: P.O. #3189-1072
O.H. Materials Corp.
Project #3828-P30Sample Received: 1/4/88

Source: S/L #8-0068 - Sample #3828-86, Composite Soil, PD/EM 1300

	Raw		E. P. Toxicity (mg/l)
pH (1:3 dilution) at 20°C	7.8	(+)Arsenic	0.031
Cyanide, Total (ppm)	1.96	Barium	< 1.0
Phenols (ppm)	0.2	Cadmium	< 0.10
Sulfide, Total (ppm)	1.5	Chromium, Total	< 0.10
Ash (%)	69.5	Lead	< 0.10
Specific Gravity	1.51	Mercury	0.0006
Total Solids (%)	80.47	(+)Selenium	< 0.001
Water (%)	19.58	Silver	< 0.10
Flash Point	> 212°F	(+) by HGA	
PCB's (ppm)	< 0.1	(< = <u>less than</u>)	

ANALYSIS CERTIFIED BY:  , Director (HRT/ak)Members of American Society of Mass Spectrometry
American Chemical Society • American Society for Microbiology
Water Pollution Control Federation • Institute of Food TechnologyCertifications: U.S.D.A. #1783 • Ill. Dept. of Public Health #17135 • Amer. Spice Trade Assn. • F.D.A. Reg. #1419676 • Ill. EPA #100225
Wis. DNR #999318210

CHAIN OF CUSTODY RECORD

6050 1509
#5: 6050

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

[illegible]



PLEASE PRINT IN INK OR TYPE (Elite, 12-pitch).



109445

ACL

J 09445

Waste Profile Sheet Code 153

CWM Location of Original: ACC

(SHADED AREAS FOR CWM USE ONLY)

CWM Sales Rep. #: 11

A. GENERAL INFORMATION

1. Generator Name: U.S. EPA / Western Scrap 2. Generator USEPA ID: INE2000 00239
3. Facility Address: 6500 Industrial Highway 4. Generator State ID: _____
Gary, Indiana 46406
5. Zip Code: 46406
6. Technical Contact: Len Zintak 7. Title: On-Scene Coordinator 8. Phone: (312) 586-4346

B. MAIL CHEMICAL WASTE MANAGEMENT, INC. INVOICES TO

B. MAIL CHEMICAL WASTE MANAGEMENT, INC. INVOICES TO 1. ☐ Generating Facility (A, above), or
2. Company Name: PEI Associates 3. Phone: (513) 782 - 4700
4. Address: 11499 Chester Rd.
Cincinnati, Ohio
5. Zip Code: 45246

C. 1. NAME OF WASTE

C. 1. NAME OF WASTE Contaminated Soil
 2. PROCESS GENERATING WASTE CERCLA Cleanup - abandoned drums at a scrap metal dealer
 3. Is this waste a Dioxin listed waste as defined in 40 CFR 261.31 (e.g., F020, F021, F022, F023, F026, F027, or F028)?
☐ Yes ☒ No If yes, **DO NOT COMPLETE** this form. Contact your Chemical Waste Management, Inc. sales representative for assistance.

D. PHYSICAL CHARACTERISTICS OF WASTE

1. Color: <u>own</u>	2. Does the waste have a strong incidental odor? <input type="checkbox"/> No <input type="checkbox"/> Yes If known, describe: <u>NA</u>	3. Physical State @ 70°F: <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Semi-Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Powder Other: _____	4. Layers: <input type="checkbox"/> Multilayered <input type="checkbox"/> Bi-layered <input checked="" type="checkbox"/> Single Phased	5. Specific Gravity: Range: <u>1.5</u> _____	6. Free Liquids: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Volume: _____ %
7. pH: <input type="checkbox"/> ≤ 2 <input type="checkbox"/> > 2-4 <input type="checkbox"/> 4-7 <input type="checkbox"/> 7 <input checked="" type="checkbox"/> 7-10 <input type="checkbox"/> 10- < 12.5 <input type="checkbox"/> ≥ 12.5 <input type="checkbox"/> Range <u>6-8</u> <input type="checkbox"/> NA					

8. Liquid Flash Point: ☐ < 73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☒ ≥ 200°F ☐ None ☒ Closed Cup ☐ Open Cup

E. CHEMICAL COMPOSITION

[illegible]

Please note: The chemical composition total in the maximum column must be greater than or equal to 100%. **TOTAL:** 120 %

2 Indicate if this waste contains any of the following:

	NONE	or	LESS THAN	or	ACTUAL	
PCB's	<input type="checkbox"/>		<input type="checkbox"/> < 50 ppm		<u>< 0.1</u>	ppm
Cyanides	<input type="checkbox"/>		<input type="checkbox"/> < 50 ppm		<u>1.96</u>	ppm
Phenolics	<input type="checkbox"/>		<input type="checkbox"/> < 50 ppm		<u>0.2</u>	ppm
Sulfides	<input type="checkbox"/>		<input type="checkbox"/> < 50 ppm		<u>1.5</u>	ppm

F. METALS Indicate if this waste contains any of the following:

1. <input checked="" type="checkbox"/> EP TOX/TCLP	or	2. <input type="checkbox"/> Total	
METAL	LESS THAN	or	ACTUAL
(Parts Per Million)			
Arsenic	<input type="checkbox"/> < 5	<input type="checkbox"/> < 500	<u>0.031</u>
Barium	<input type="checkbox"/> < 100		<u><1.0</u>
Cadmium	<input type="checkbox"/> < 1	<input type="checkbox"/> < 100	<u><0.10</u>
Chromium	<input type="checkbox"/> < 5		<u><0.10</u>
Lead	<input type="checkbox"/> < 5	<input type="checkbox"/> < 500	<u><0.10</u>
Mercury	<input type="checkbox"/> < 0.2	<input type="checkbox"/> < 20	<u>0.0006</u>
Selenium	<input type="checkbox"/> < 1	<input type="checkbox"/> < 100	<u><0.001</u>
Silver	<input type="checkbox"/> < 5		<u><0.10</u>
Chromium-Hex	<input type="checkbox"/> < 5	<input type="checkbox"/> < 500	<u>NA</u>
Copper	<input type="checkbox"/> < 5		<u>NA</u>
Nickel	<input type="checkbox"/> < 5	<input type="checkbox"/> < 134	<u>NA</u>
Thallium	<input type="checkbox"/> < 5	<input type="checkbox"/> < 130	<u>NA</u>
Zinc	<input type="checkbox"/> < 5		<u>NA</u>

GENERATOR'S WASTE MATERIAL PROFILE SHEET (Continued)

ACL J 09445
Waste Profile Sheet Code

G. OTHER HAZARDOUS CHARACTERISTICS

- Is this waste a listed solvent waste as defined by 40 CFR 261.31 (F001, F002, F003, F004, or F005)? ☐ Yes ☒ No
- Does this waste contain greater than 1000 ppm total halogenated organic compounds? ☐ Yes ☒ No
- Indicate if this waste is any of the following:

<input type="checkbox"/> RCRA Reactive	<input type="checkbox"/> Radioactive
<input type="checkbox"/> Water Reactive	<input type="checkbox"/> Etiological
<input type="checkbox"/> Explosive	<input type="checkbox"/> Pesticide Manufacturing Waste
<input type="checkbox"/> Shock Sensitive	<input type="checkbox"/> Other _____
<input type="checkbox"/> Pyrophoric	<input checked="" type="checkbox"/> None of the above

H. COMPLETE ONLY FOR WASTES INTENDED FOR FUELS or INCINERATION

	LESS THAN	or	ACTUAL
Beryllium	<input type="checkbox"/> < 5000 ppm		_____ ppm
Potassium	<input type="checkbox"/> < 5000 ppm		_____ ppm
Sodium	<input type="checkbox"/> < 5000 ppm		_____ ppm
Total Bromine	<input type="checkbox"/> < 2 %		_____ %
Total Chlorine	<input type="checkbox"/> < 35 %		_____ %
Total Fluorine	<input type="checkbox"/> < 1 %		_____ %
Total Sulfur			_____ %

I. OPTIONAL — RECLAMATION, FUELS, OR INCINERATION PARAMETERS Provide if information is available.

- Range
- Heat Value (BTU/lb): _____
 - Water: 19.58 %
 - Viscosity (cps): _____ @ ☐ _____ °F ☐ 100°F ☐ 150°F
 - Ash: 69.5 %
 - Settleable solids: _____ %
 - Vapor Pressure @ STP (mm/Hg): _____
 - Is this waste a pumpable liquid? ☐ Yes ☒ No
Type of pump? _____
 - Can this waste be heated to improve flow? ☐ Yes ☒ No
 - Is this waste soluble in water? ☐ Yes ☐ No
 - Particle size: Will the solid portion of this waste pass through a 1/8 inch screen? ☐ Yes ☐ No

J. TRANSPORTATION INFORMATION

- Is this a DOT Hazardous Material? ☐ Yes ☒ No
- Anticipated Annual Volume/Units: 40 cubic yds.
- Proper Shipping Name: DOT Non-HAZARDOUS
- Hazard Class: NA
- I.D. #: NA
- Additional Description: (N/A)
- Method of Shipment: ☐ Bulk Liquid ☒ Bulk Solid ☐ Drum (Type/Size): _____ Other: _____
- CERCLA Reportable Quantity (RQ): NA
- RQ Units (lb/kg): NA
- USEPA Hazardous Waste? ☐ Yes ☒ No
- USEPA Hazardous Waste Number(s): NA
- State Hazardous Waste? ☐ Yes ☒ No
- State Hazardous Waste Number(s): NA

K. SPECIAL HANDLING INFORMATION

Super Bul Kithaven 10-24-88 DLM

☐ Additional Page(s) Attached

L. **GENERATOR CERTIFICATION** I hereby certify that all information submitted in this and all attached documents contains true and accurate descriptions of this waste material, and all relevant information regarding known or suspected hazards in the possession of the generator has been disclosed.

- Leonard N. Zintak Jr.
Signature
- On Scene Coordinator
Title
- Leonard N. Zintak Jr.
Name (Type or Print)
- 7/12/88
Date



Chemical Waste Management, Inc.
GENERATOR CERTIFICATION OF REPRESENTATIVE SAMPLE
PLEASE PRINT IN INK OR TYPE (Elite, 12-pitch).



ACL

J 09445

CWM Location of Original: ACL

(SHADED AREAS FOR CWM USE ONLY)

Waste Profile Sheet Code 153
CWM Sales Rep. #: HT

Chemical Waste Management, Inc. must be returned, with the representative sample, to:

4636 Adams Center Road
Fort Wayne, Indiana 46806
219/447-5585

4636 Adams Center Road
Fort Wayne, Indiana 46806
219/447-5585

Chemical Waste Management, Inc.

INSTRUCTIONS FOR COMPLETING THIS FORM ARE FOUND ON THE OPPOSITE SIDE. In order to determine whether Chemical Waste Management, Inc. can accept the special waste described in the Generator's Waste Material Profile Sheet referenced above, you must obtain and supply us with a representative sample of the waste. We may analyze the sample to verify the information that you have provided to us. A representative sample is defined as a sample obtained using any of the applicable sampling methods specified in 40 CFR 261-Appendix I or an equivalent method. Collect a representative sample of your waste and complete the form below. Apply the peel off label and ship your sample along with this form to the address noted above. If you have any questions regarding obtaining a representative sample of your waste, please refer to the instructions for this form, or contact your Chemical Waste Management, Inc. sales representative.

A. SAMPLING METHOD (Indicate which method was employed)

If sampling requirement has been waived by Chemical Waste Management, Inc., do not complete this Generator's Certification of Representative Sample form.

1. ☐ I have obtained a representative sample of the waste material described in the Generator's Waste Material Profile Sheet referenced above according to the sampling methods specified in 40 CFR 261-Appendix I.
2. ☒ I have obtained a representative sample of the waste material described in the Generator's Waste Material Profile Sheet referenced above using a method equivalent to the sampling methods described in 40 CFR 261-Appendix I.

B. SAMPLE SOURCE (e.g., drum, lagoon, pit, pond, tank, vat)

Soil

C. SAMPLE LABEL — COMPLETE LABEL BEFORE REMOVING

1. Waste Profile Sheet Code:
2. ☒ Generator's Name:
3. ☒ Name of Waste:
4. ☒ Sample Hour/Date:
5. ☒ Sampler's Signature:

1. Waste Profile Sheet Code:
2. Generator's Name:
3. Name of Waste:
4. Sample Hour/Date:
5. Sampler's Signature:

6. Print Sampler's Name: Leonard N. Zintak Jr.
7. Sampler's Title: On Scene Coordinator
8. Sampler's Employer (if CWM, see D. below): U.S. EPA - Region 5

D. WITNESS VERIFICATION (if required) In most circumstances you will be obtaining the sample. However, in those cases in which Chemical Waste Management, Inc. obtains the sample, one of your employees must be present to direct the particular source to be sampled, to witness the sampling, and to complete this Part D.

I was personally present during the sampling described. I directed the waste source to be sampled, and I verify the information noted above.

1. Witness' Signature: Charles Canon
2. Witness' Name: Charles Canon
3. Witness' Title: Environmental Scientist
4. Witness' Employer: Roy F. Weston, Inc.
5. Date: 9/15/85

STATE BOARD OF HEALTH

INDIANAPOLIS

OFFICE MEMORANDUM

DATE: February 25, 1981

TO: Earl Bohner

THRU: Skip Powers
John Winters

FROM: John R. Hayworth

SUBJECT: Waste Solvent Spill at
Conservation Chemical
in Gary

On Tuesday, December 22, 1981, at 11:10 a.m., Mr. Dale Chapman, General Manager for Conservation Chemical Company, Box 5066, 6500 Industrial Highway, Gary, Indiana 46406 (219/949-8229), reported a 16,000-gallon spill of waste solvents. The spill was the result of a leaking valve on a storage tank that contained approximately 21,600 gallons of waste solvents.

The material that left the storage tank pooled in two areas surrounding the damaged tank. The material had been analyzed by General Testing Laboratories in Kansas City, Missouri. This analysis was used by Conservation Chemical to determine their cleanup procedure. That analysis was as follows:

Methylene chloride	44.5%
Ethyl alcohol	12.5%
Ethyl acetate	12.0%
Xylene	5.0%
Toluene	2.0%
Napthas	5.0%
Heavy oil	18.0%
Flash point of 1°F	

On December 22, Dr. George Madany, of the EPA, investigated the spill and checked for any explosion potential. Dr. Madany reported that all of the spilled material was contained, that the ground was frozen and, therefore, there was probably very little penetration, and that there was no explosion potential. The facility was also visited on December 22 by representatives of Gary Air Pollution Control, the Gary Health Department, and the Gary Fire Department.

On Wednesday, December 23, Mr. Richard Cleaton, of the Inspection and Investigation Section of the Indiana State Board of Health, inspected the spill site and was concerned that very little cleanup had been accomplished and that there was a groundwater contamination potential that was not being investigated. Conservation Chemical personnel, up until this time, had been removing the contaminated soil in approximately an 800-square foot area with hand

tools because of the explosion potential. A sample collected at this time from the pooled material was analyzed by the Indiana State Board of Health with the following results:

Methylene chloride	200 ppm
Ethyl alcohol	not available at this time
Ethyl acetate	not available at this time
Xylene	150 ppm
Toluene	100 ppm
Napthalas	not available at this time
Oil	not available at this time
Trichloroethylene	370 ppm
Methyl ethyl ketone	740 ppm
Ethylbenzene	28 ppm
1,1,1 trichloroethane	250 ppm
pH	6.4
Flash point	not available at this time

On Thursday, December 24, General Drainage arrived on the scene with vacuum equipment to pump up the liquid remaining on the ground. According to an attached report from Mr. Chapman, approximately 3,000 gallons of liquid was picked up and transferred to an empty storage tank at the site. Manual cleanup was continued on December 26 and 27.

According to Mr. Chapman, on Monday, December 28, samples of the contaminated soil that was being placed into 55-gallon recovery drums at the site were taken. A torch was used by Conservation Chemical personnel to try to ignite the samples. No ignition occurred. After this determination, a front-end loader was used by facility personnel to remove the contaminated soil and place it into an empty open-top vertical storage tank at the site. The cleanup was completed on December 31. A total volume of excavated soil has not been calculated by Mr. Chapman.

I visited the site on Wednesday, January 6, at which time photographs were taken of the spill site after the cleanup had been completed. Photographs were also taken by Mr. Cleaton on December 23. During my inspection, the areas that had been excavated were frozen over. Drums containing the recovered soil were sitting in the locations where they were filled. Mr. Chapman stated that no groundwater contamination had occurred during the incident. The material that spilled had been in the storage tank for approximately ten years, according to Mr. Chapman.

On Tuesday, January 12, Mr. Cleaton and Dr. Madany made a joint inspection of the facility at which time groundwater samples were to be taken. Samples were not taken because of the frozen condition of the site. Dr. Madany stated that the cleanup was adequate.

In 1978, Mr. James M. King, at that time a member of the Solid Waste Section of the Indiana State Board of Health, prepared a study of the geologic/hydrogeologic characteristics of the Conservation Chemical Company. Mr. King states "The hydrogeologic environment beneath the

Conservation Chemical Company facility is extremely vulnerable to groundwater pollution." Mr. King further states that "Spills and leakage from drums and bulk storage are specially potentially destructive." A copy of Mr. King's study is attached.

Based on the available information, staff recommends that enforcement action be taken requiring groundwater sampling to be done by Conservation Chemical Company. Conservation Chemical Company should also be required to submit to the Indiana State Board of Health a copy of their spill contingency plan.

JRH/bo

Attachments

cc: Joe Stallsmith
George Halloran
Dick Cleaton
Jim Hunt
✓ Jim Knoy
Dave Lamm

JANUARY 18, 1982

SUBJECT: DISCHARGE FROM SOLVENT STORAGE TANK 1-S
CONSERVATION CHEMICAL COMPANY; GARY, IN

On Tuesday, December 22, 1981, at approximately 9:30 AM, it was discovered that the discharge nozzle from Solvent Tank 1-S had broken between the tank and the discharge valve. While a very, very small liquid stream was coming from the tank discharge nozzle, it was obvious a relatively large discharge had occurred. It was observed that the discharge was contained within bermed areas. It was determined that approximately one third of the original volume was still in the tank. Pipe threads on the broken discharge nozzle were carefully cleaned and a pipe cap was installed to prevent any further discharge.

Dale Chapman of Conservation Chemical Company called the Indiana Emergency Center at 317-633-0683 and reported the incident to Mr. Skip Powers. Mr. Chapman then called the National Response Center at 800-424-3602 and talked to Petty Officer Mackey. Mr. Chapman also called the Gary Fire Department and talked to Mr. Spiro and Mr. Casper Jones.

The plant was subsequently called by Dr. George Madany of the USEPA in Chicago (312-886-3011). Petty Officer Crowder of the "Coast Guard Marine Safety Officer" (312-353-4206) also called the plant.

In all of the above contacts, available details including the analysis of the solvent, description of the failure, rough estimate of volume, the containment of the spill, etc. were supplied.

Since available analytical information indicated flammability, plant personnel took appropriate action to prevent ignition. The entire spill area was roped off and warning flags and signs were attached. Access to the plant area was also limited to some degree. The E J & E railroad was notified to avoid any rail movements on the plant spur and prevent any accidental problems in relation to the line between the plant property and the Gary Airport.

Dr. Madany of the USEPA visited the site early in the afternoon of December 22. He had a portable explosion and flammability analyzer which did not give any indication of either hazard. We also noted that the ground was quite frozen so that penetration of the solvent into the ground was quite unlikely.

On the 22nd, the plant was also visited by Mr. Dennis McGuire and Mr. Mitchell Walton of the "Gary Air Pollution Control", Mr. James Gray of the "Gary Board of Health" and Deputy Fire Chief Joel Massa, Mr. Spiro and another associate from the "Gary Fire Department". Mr. Richard Cleaton of the "Indiana State Board of Health" visited the plant on December 23rd and made several subsequent visits. John Hayworth of the "Indiana State Board of Health" in Indianapolis visited the plant January 6, 1982. There were also several telephone conversations with Mr. Jim Kanoi of the "Indiana Board of Health".

Although Conservation Chemical Company's normal hours are 8 AM to 4:30 PM, as requested by the USEPA, arrangements were made to have someone at the plant around the clock. Due to anticipated flammability problems, limitations were established for safety. Plant operations were shut down and additional personnel were obtained to assist in clean up efforts. Initial efforts involved manually shoveling material into drums. General Drainage was contacted and hired to utilize a vacuum truck to suck up solvent material which had pooled on the ground.

The first opportunity to use General Drainage was the morning of December 24th. They were able to pick up about 3,000 gallons of liquid which was transferred to an empty storage tank at the plant site. Manual cleanup was continued on Saturday and Sunday, the 26th and 27th. On Monday December 28th, samples of contaminated ground were obtained and crudely tested for flammability. None of the samples could be ignited with a torch. Since flammability was not a problem, we were able to use a front end loader to scrape up contaminated soil. The speed of the clean-up was significantly improved. Contaminated soil picked up with the loader was put into another empty storage tank at the plant site. Cleanup was completed by December 31st.

Mr. Madany of the USEPA and Mr. Cleaton of the Indiana State Board of Health visited the plant again January 12, 1982 and inspected the spill site. No additional activities are planned for the immediate future. When the weather permits and the collected materials are thawed, representative samples will be obtained and analyzed to determine proper future disposition.

APPENDIX H



Telephone Conversation Log

Date & Time of Call: 7/11/07 10:15A

To [x]/From []:

Contacts Name:

Company/Regulatory Agency Name: City of Gary Fire Department

Phone Number: 219-881-5220

Fax Number:

Address: 200 E. 5th Avenue
Gary, IN 46402

QEPI Personnel: N. Vijay

Site & Subject: Gary Conservation Chemical Environmental Records Search

Discussion: Spoke with a representative from the fire dept. regarding records available pertaining to incidents or responses at the subject site. The representative directed us to contact Doreen Curry with the City's Environmental Affairs office.

Action Items: Contact environmental affairs.

Signature: N. Vijay

Title Telephone Conversation Log	OSM Revision R4	Date Effective 9/28/00	Form # FM037
Section Entire Organization	Prepared by erb	Approved by dep	Page 1 of 1



Telephone Conversation Log

Date & Time of Call: 7/11/07 15:15P

To [x]/From []:

Contacts Name:

Company/Regulatory Agency Name:

City of Gary Office of Environmental Affairs

Phone Number: 219-882-3000

Fax Number:

Address: 839 Broadway Ave, 2nd Floor
Gary, IN 46402

QEPI Personnel: N. Vijay

Site & Subject: Conservation Chemical Environmental Records Search

Discussion: Spoke with a representative from the Office of Environmental Affairs regarding available records pertaining to the subject site. The representative stated that they were aware of numerous investigations & reports available for the property & recommended we conduct a file review at IDEM for a complete record.

Action Items: File review at IDEM

Signature:

Title Telephone Conversation Log	OSM Revision R4	Date Effective 9/28/00	Form # FM037
Section Entire Organization	Prepared by erb	Approved by dep	Page 1 of 1



GARY/CHICAGO INTERNATIONAL AIRPORT

6001 W. Industrial Hwy
Gary, Indiana 46406
Tel: 219/949-9722
Fax: 219/949-0573
www.garychicagoairport.com

FACSIMILE TRANSMITTAL SHEET

TO:	NIVAS VIJAY	FROM:	BOB GYURAO
COMPANY:	QEP I	DATE:	7-16-2007
FAX NUMBER:	574-234-1615	TOTAL NO. OF PAGES INCLUDING COVER:	5
PHONE NUMBER:	574-234-1475	SENDER'S REFERENCE NUMBER:	
RE:		YOUR REFERENCE NUMBER:	

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

COMMENTS:

If you do not receive all pages as indicated above or the transmittal is illegible, please call (219) 949-9722.
Thank you.



Phase I Environmental Site Assessment Questionnaire

CONSERVATION COUNCIL SITE

Property Owner /Manager: Description of Site/Address:

Name: ROBERT CHURNO

Title: PROJECT MANAGER

Address & Phone Number 6001 W INDUSTRIAL HIGHWAY 6000 10/46406
219-949-4912

Question										
1. Proceedings involving the property:										
Are there any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property?								<input checked="" type="radio"/> Yes	No	
Are there any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property?								<input checked="" type="radio"/> Yes	No	
Are there any notices from any government entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum?								<input checked="" type="radio"/> Yes	No	
Question			Owner			Property Manager (if applicable)			Occupant	
2a. What was the prior use of the property?			Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: <u>REFINERY HAZ MAT STORAGE + DISPOSAL?</u>										
2b. What was the prior condition of the property?			Yes	No	<input checked="" type="radio"/> Unk	Yes	No	Unk	Yes	No
Comments: <u>UNK</u>										
2c. What is the current use of the property?			Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: <u>NONE</u>										
3a. Has prior use of the site included the use, treatment, storage, disposal, or generation of hazardous substances or petroleum products?			Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: <u>YES</u>										
3b. Is the property currently used to treat, store, dispose, or generate hazardous substances or petroleum products?			Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: <u>YES</u>										



Phase I Environmental Site Assessment Questionnaire

(Continued)

Question	Owner			Property Manager (if applicable)			Occupant	
	Yes	No	Unk	Yes	No	Unk	Yes	No
4. Historically or are the adjoining properties or areas used/ use, as treatment, storage, disposal, or generation of hazardous substances or petroleum products? (Examples: gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility (if applicable, identify which)?)								
Comments: YES GO TANE WESTERN SCRAP								
5a. General Description of Buildings?	Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: SMALL OIL COLLECTION PUMP HOUSE								
5b. Description of road, parking areas, thoroughfares?	Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: NONE								
6a. Source of water supplies on the property?	Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: NONE								
6b. Sewage disposal for the property?	Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: NONE								
7a. Are there any aboveground storage tanks or underground storage tanks on the property?	Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: NONE								
7b. Have you noticed strong, noxious, or pungent odors on the property?	Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: YES								



**Phase I Environmental
Site Assessment Questionnaire**
(Continued)

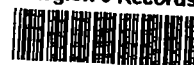
Question	Owner			Property Manager (if applicable)			Occupant	
8a. How is the building(s) heated and/or cooled?	Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: <u>ELECTRIC</u>								
8b. Are there stains, corrosion or stressed vegetation on the property?	Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: <u>YES</u>								
9a. Are there sources of PCBs at on the property? (Examples: electrical transformers)	Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: <u>YES</u>								
9b. Have there or are there any lagoons, ponds or pits located on the property?	Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: <u>YES</u>								
10a. Have or is waste water generated at the site?	Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: <u>YES OIL COLLECTION SYSTEM WATER IS SKIMMED AND REINJECTED</u>								
10b. Are there any wells on the property? (Including dry wells, irrigation wells, injection wells, abandoned wells, or others)	Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: <u>TEST WELLS</u>								
11. Are there any septic tanks/systems on the property?	Yes	No	Unk	Yes	No	Unk	Yes	No
Comments: <u>NO</u>								

0000001

GARY MUNICIPAL AIRPORT AUTHORITY

GARY, INDIANA

EPA Region 5 Records Ctr.



224900

HAZARDOUS WASTE

ASSESSMENT

AT

CONSERVATION

CHEMICAL COMPANY

FINAL REPORT
October, 1983

HAVENS AND EMERSON

CONSULTING ENVIRONMENTAL ENGINEERS

CLEVELAND - ATLANTA - ST. LOUIS - BOSTON
GARY, INDIANA - SADDLE BROOK, N.J.

HAVENS AND EMERSON LTD. CONSULTING ENVIRONMENTAL ENGINEER

HAVENS AND EMERSON INCORPORATED

CONSULTING ENGINEERS

ENVIRONMENTAL ENGINEERING

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JAMES P. HARRIS

GARY OFFICE
GARY NATIONAL BANK BUILDING
SUITE 731
504 BROADWAY
GARY, INDIANA 46402
219/886-2066

WATER RESOURCES
POLLUTION CONTROL
SEWERAGE DRAINAGE
WASTEWATER TREATMENT
INDUSTRIAL WASTES
SOLID WASTES DISPOSAL
AIR POLLUTION CONTROL
RATE INVESTIGATIONS
SANITARY LABORATORIES
AREAWIDE PLANNING

October 26, 1983

Re: Hazardous Waste Assessment
at Conservation Chemical Co.
(Our File No. 1-1478-01-1)
Final Report Draft

Dr. A. William Douglas, Director
Gary Municipal Airport Authority
6131 Industrial Highway
Gary, Indiana 46406

Dear Dr. Douglas:

Enclosed please find the Final Report on the subject study.

The objectives of the study were to identify hazardous materials on the site, to determine whether contamination of soil and groundwater constitutes a problem and to estimate the costs required for cleanup of the site in conjunction with acquisition for a proposed airport expansion project. Our assessment of hazardous waste material problems at Conservation Chemical Co. is based upon site inspections, detailed analysis of samples obtained in the course of these inspections and review of documentary material. The scope of sampling activities was limited by disagreements between the Airport Authority and the Company regarding permissions for such sampling.

Subject to these limitations the following areas were identified as requiring remedial action.

- . Removal and disposal of impounded hazardous solid materials impounded in the pie shaped basin and elimination of currently uncharacterized "eruptions" there.
- . Collection and treatment of oil contaminated groundwater.
- . Removal and disposal of "neutral acid sludge" hazardous material contained in Tank 20.

 60 YEARS of SERVICE

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Mr. William Douglas
October 26, 1983
Page 2

- Removal and disposal of contaminated soil may be required particularly for any such soil found in the taxiway path, pending sampling and analysis. Neutralization may suffice for acid-contaminated soil between the pie basin and Tank 19.

Cost estimates indicate that restoration of the Conservation Chemical Co. property will require substantial investment on the part of the airport. The minimum investment is estimated at \$640,000, and in the worst case it would conceivably be as high as \$6,900,000. The range of estimated costs reflects uncertainties that can be resolved with recommended additional studies.

Details are presented in the Executive Summary and the text of the report. Documentary material is included in several appendices.

This submittal completes fulfillment of our contract terms for the Hazardous Waste Assessment. We are pleased to have been of service to the Gary Municipal Airport Authority and look forward to future assignments in this and other areas of environmental engineering.

Sincerely yours,

HAVENS AND EMERSON, INC.

Richard Prober

Richard Prober, PhD., P.E.
Project Manager

Gary M. Siegel

Gary M. Siegel, P.E.
Principal-in-Charge

RP:saj



HAVENS AND EMERSON, INC.

GARY MUNICIPAL AIRPORT AUTHORITY
HAZARDOUS WASTE ASSESSMENT AT CONSERVATION CHEMICAL CO.

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GARY MUNICIPAL AIRPORT AUTHORITY
HAZARDOUS WASTE ASSESSMENT AT CONSERVATION CHEMICAL CO.

EXECUTIVE SUMMARY

Conservation Chemical Company of Illinois has conducted operations at a site west of the Gary Municipal Airport, which is planned for acquisition in an airport development project. The company manufactures iron salt coagulants, using waste pickling liquor from local steel mills as raw material.

The property apparently has been used for storage, treatment and/or disposal of hazardous material by Conservation Chemical Co. or by previous owners. Acquisition for the Airport expansion would entail closure and cleanup of the site, including removal and disposal of stored hazardous wastes as well as decontamination and disposal of tanks and equipment. It also may be necessary to deal with contaminated soil and groundwater.

The Gary Municipal Airport Authority retained Havens and Emerson, Inc. as prime contractor for a study to assess the extent of the problems at the Conservation Chemical Company site, in order to guide their decisions regarding acquisition of that property and expenditure of airport development funds. The objectives were to identify hazardous materials stored on the site; to determine whether soil and groundwater contamination constitutes a problem; and to estimate the costs required for cleanup of the site.

The scope of activities at the site has been limited by disagreement between the Airport Authority and Conservation Chemical Co. regarding permissions for sampling from tanks and stored drums and soil boring. However, on the basis of limited groundwater monitoring using new wells located on adjacent property, as well as information provided by the Company and documents from EPA files, an initial assessment can be made concerning hazardous waste problems on this site. In brief, the anticipated problem areas which can affect the property acquisition by the Airport are as follows:

- . The pie-shaped basin at the southern apex of the triangular site is a lagoon which has been used for disposal of slop oils and waste solids from neutralization of steel pickling liquor. A portion of this area is directly in the path of runway extension, and the unconsolidated solid material must be removed at least to a depth of six feet below the existing surface and replaced with clean fill to provide adequate soil mechanical properties. Removal operations will be complicated by possible "eruptions" and gas emissions originating below the six-foot depth and attributed to possible buried reactive waste or putrescible organic solids. Hazardous materials present in the solids will require costly ultimate disposal methods.
- . An acid-contaminated soil zone adjoining the basin north of the railroad spur extends toward Tank 19. Conservation Chemical Co. presently pours soda ash on the soil, as necessary to neutralize ponded surface water. Portions of this soil may have to be removed for the taxiway extension.
- . Contaminated soil may be present elsewhere on the site as a result of recent process chemical spills associated with the ferric chloride manufacturing activities, leakage or spills from tanks or drums containing hazardous material and residues of oil product spills dating from the refinery. In addition, leakage from buried abandoned piping may also contaminate the soil.
- . Ground water monitoring at new wells (installed as part of this study) just outside the site shows contamination with chlorinated organics, cyanides, phenols and heavy metals. It is not possible to assess whether the contamination

originates on the Conservation Chemical Co. property without additional wells on their land.

- . Oil-contaminated groundwater has been found on the site, seeping into pit excavated by Conservation Chemical Co. The source and extent of contamination cannot be determined without further excavation or soil boring. Although the oily material is free of hazardous components, some remedial action will be required.
- . Tanks and process equipment in the path of the runway-taxiway extension must be dismantled and removed. Conservation Chemical Co. acknowledged in inventories filed with the U.S. Environmental Protection Agency that hazardous materials have been stored in their tanks and equipment, but they maintain that, with one exception noted below, these are marketable "materials in process" and will be removed prior to the title transfer.
- . Tank 20 contains the admittedly unmarketable sludge resulting from neutralization of steel mill pickling liquor, which has characteristics similar to the solids at the top of the pie basin.
- . Drums stored on the site, which potentially can add to soil and groundwater contamination, must be removed. Conservation Chemical Co. acknowledged in inventories filed with the EPA that some drums may contain hazardous materials, but maintains that those drums are "materials in process" which will be removed prior to the title transfer.

The alternatives considered for remedial action were as follows:

- . Remove solid material from the pie-shaped basin as necessary for grading the runway extension as well as to uncover and remove the source of eruptions. This will have to be done stage-wise, since the depth and volume of removal has not been determined precisely.
- . Treat the material removed from the pie-shaped basin and neutral acid sludge from Tank 20 by chemical fixation, if the recommended study shows this to be feasible, and dispose of it on site; alternatively, arrange hauling and off-site landfill disposal with lime pretreatment as necessary for hauling stability.
- . Neutralize the acid contaminated soil zone by addition of lime or limestone.

- . Remove and replace all other contaminated soil and arrange off-site landfill disposal.
- . Collect oily groundwater seepage at the existing unlined pit, separate the oil and arrange for reclamation or off-site disposal, if necessary.
- . Decontaminate tanks and process equipment (if necessary), demolish and arrange salvage or off-site disposal.

The costs required to carry out the required remedial actions, allowing for the uncertainties discussed above, are estimated to range from \$640,000 with the best possible circumstances to as much as \$6,900,000 in the worst case.

Due to the numerous uncertainties, the following are recommended as initial remedial actions, in conjunction with a program of additional sampling and analysis to resolve the uncertainties.

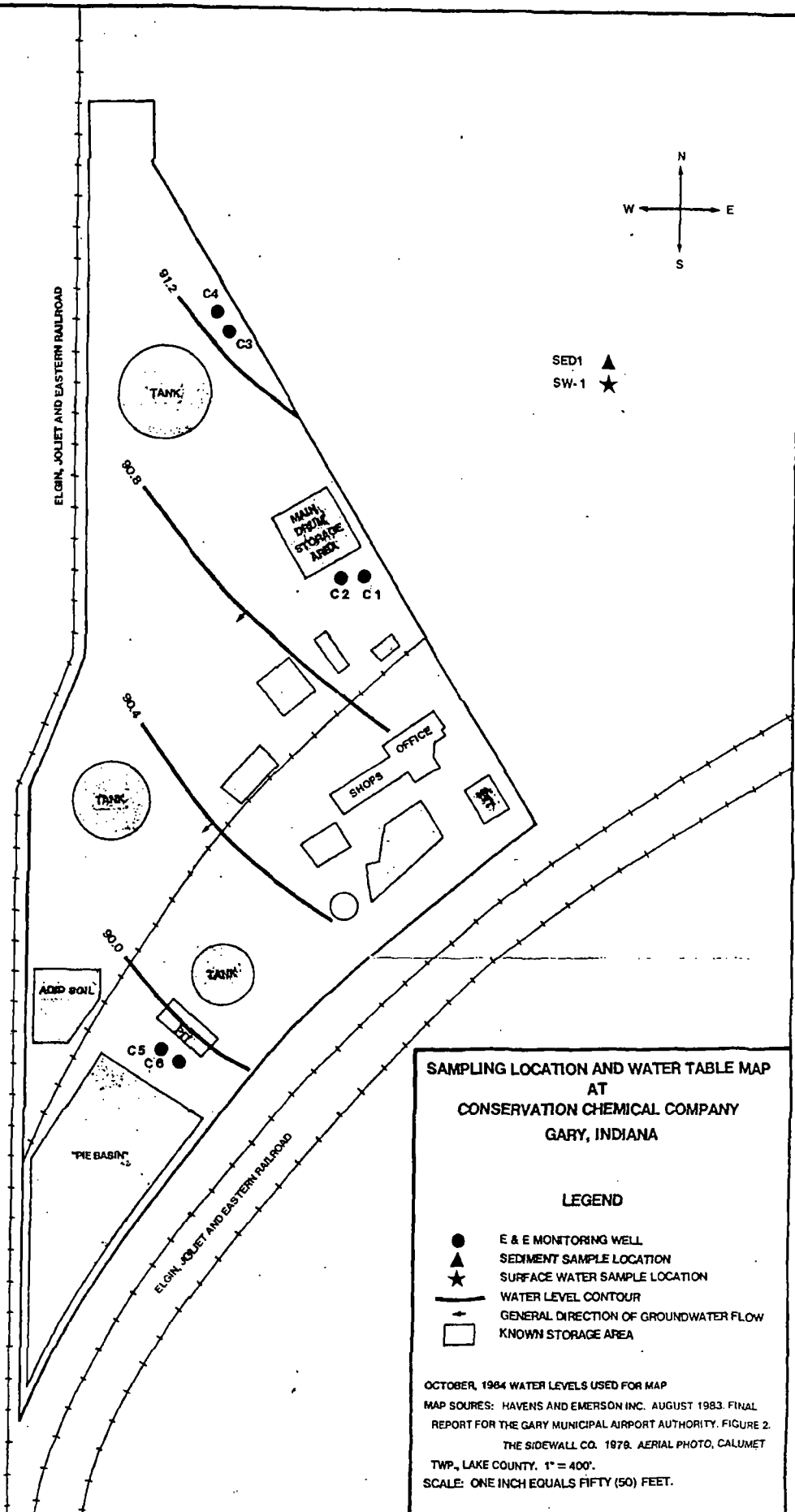
- . Remove the pie basin solids, and arrange ultimate disposal based on results of gas emissions monitoring and chemical fixation tests.
- . Remove the neutral acid sludge from Tank 20 and arrange ultimate disposal together with the pie basin solids.
- . Empty and abandon Tank 19 and install oil collection equipment at the existing seepage pit, if necessary.

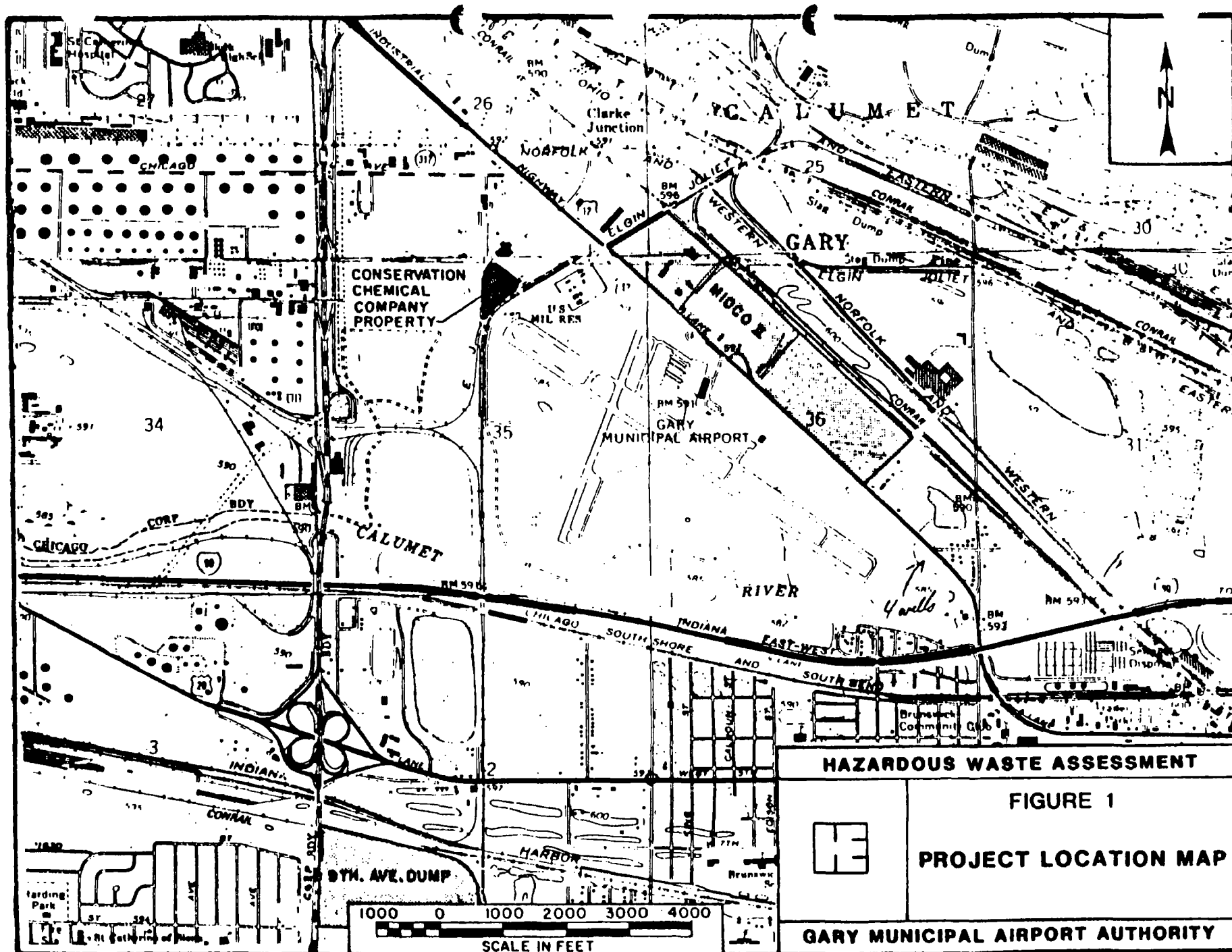
Additional studies, needed to define remedial actions, are as follows:

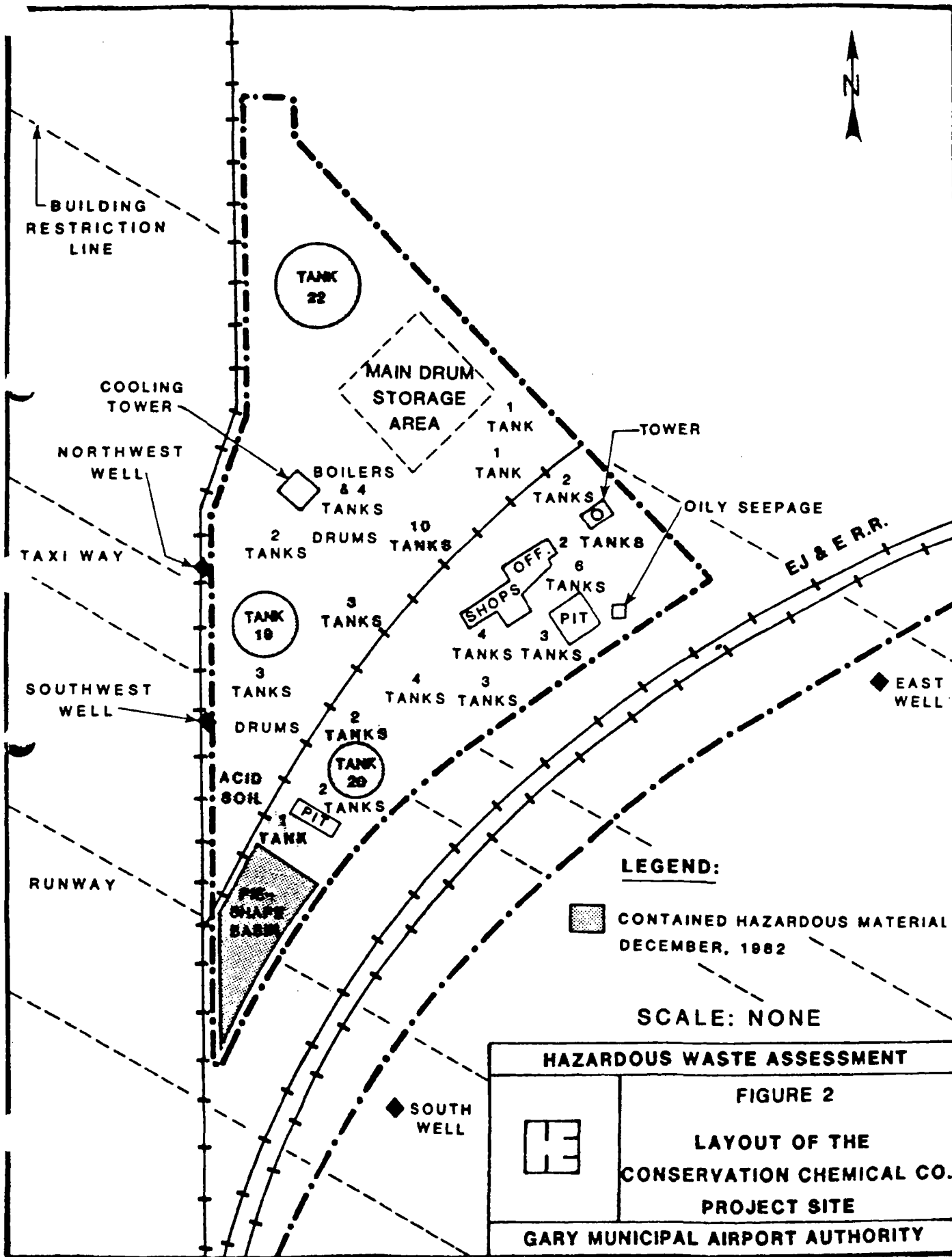
- . Continue groundwater monitoring at the four wells installed in this study, in conjunction with new wells on the Construction Chemical Co. property. This is needed for definitive judgment whether groundwater contamination does or does not originate on the site.
- . Carry out limited soil boring on the site, particularly at the acid contaminated zone, in the path of the taxiway and in the vicinity of tanks, process units and drum storage. This is necessary for determination of existing soil contamination and potential future groundwater contamination.
- . Sample eruption gases on the pie shaped basin, to define the source of eruptions.
- . Arrange feasibility tests for chemical fixation of solid materials from the pie-shaped basin and neutral acid sludge from Tank 20, to establish whether this can render these

materials non-hazardous, to determine mechanical properties of the resultant solids and to refine cost estimates.

- . Defer inspection of tanks, process units and drums and sampling of stored materials until the time of property transfer, to verify removal and decontamination by Conservation Chemical Co.







SITE CHARACTERISTICS

Figure 1 shows the project location superimposed on U.S. Geological Survey topographic maps (Highland and Whiting quadrangles, Lake County, IN). The Conservation Chemical Co. property is a 4.1 acre triangular parcel just west of the existing Airport boundaries, and bounded on two sides by Elgin, Joliet and Eastern Railroad right-of-way. The planned 1,300-foot extension of Runway 12, the east-west runway, is seen to pass through the southern half of the Conservation Chemical Co. property and also to require relocation of the adjoining railroad tracks.

The immediate area has been heavily industrialized, with petroleum refineries and steel mills seen to the north and west and no residential areas within one mile. The Conservation Chemical Co. site and adjoining parcels were at one time the site of the Berry Oil Co. petroleum refinery. Three previously identified hazardous waste sites are within a short distance from the project location, the closest being MIDCO II which also borders Airport property on the north. The Ninth Avenue dump at the extreme south of the map is one of the 418 nationally designated priority action sites, and MIDCO I, just off the map on 15th Avenue, had initial remedial action under "Superfund" during 1982.

The topography in the area is relatively flat. Elevations on the site range from about 595 feet in the pie basin to 590 feet along the northeast boundary. (The runway elevation is 591.5 feet.) Natural surface water drainage elsewhere in this vicinity is southward, into

the Grand Calumet River which is typically at elevation 582-583 feet (100-year flood elevation = 587.0 feet). However, owing to the railroad embankments, drainage on the project site is northward.

The area was a wetland prior to industrial development in the late 1800s and early 1900s. The original soils (where present) are sandy and characteristic of being at the lake bottom in former geologic times. The shallow groundwater aquifer (the Calumet aquifer), consists of highly permeable fine sand deposits extending about 10 miles southward from the Lake Michigan shoreline in the Gary vicinity. This unconfined aquifer ranges from 5 to 75 feet in thickness, averaging 20 feet, and is generally within 15 feet of the surface. It overlies nearly impermeable clay till averaging about 50 feet in thickness. The aquifer is not a significant source of water supply (1). However, it is regarded as particularly susceptible to contamination as it discharges the base flow for the Little Calumet River, the Grand Calumet River and their tributaries, as well as discharging either laterally into Lake Michigan or vertically through the underlying till into bedrock.

Figure 2 shows the Conservation Chemical Co. property in greater detail and designates approximate locations of the potential hazardous waste problems. (Figure 2, which is based upon information from other maps and aerial photographs provided by the Airport Authority and sketches provided by Conservation Chemical Co., has not been validated for accuracy. A detailed survey map of the southern half of the site and adjoining properties was developed as part of this study. A copy

of this map is included in the Appendix.) Table 1 is an inventory of tanks and process units, which identifies those currently or previously containing hazardous materials.

The principal structural features shown in Figure 2 are the office/shops building, three large tanks, two concrete lined pits, a distillation column (tower) and a forced-draft cooling tower, all remnants of the original petroleum refinery. In addition, there are 53 smaller tanks and a number of process units and small structures within a 250-foot radius from the office/shop building, and about 300 drums, at the main drum storage area and at other locations scattered around the site. The pie shaped basin at the southern apex of the triangular site and the two pits located to the southwest of the railroad space appear to be remnants of the refinery wastewater treatment and disposal system.

The southern portion of the site is directly in the path of the runway and taxiway expansion. The building restriction line 750 feet north of the runway center line passes near the northern site boundary. Besides the usual land clearance and site preparation, the proposed airport expansion project may also involve remedial actions for hazardous waste problems associated with past and present industrial activity on the site. The problems and proposed remedial actions are presented in detail, following delineation of current activities on the site with potential for hazardous materials and identification of other hazardous waste problems.

TABLE 1

CONSERVATION CHEMICAL COMPANYLOCATION AND CONTENTS OF STORAGE/TREATMENT TANKS

Based on Company sketch provided December 8, 1982 (dated August 22, 1982) and inventories dated June 1, 1981; May 26, 1981 and March 15, 1979.

<u>Tank No.</u>	<u>Capacity Gallons</u>	<u>NW/SE from Hazardous Contents (if applicable)</u>	<u>Bisecting Spur</u>	<u>Vicinity of Major Feature</u>
1	N/A	previously cyanide	NW	Tank 19
1-A	21,000	HCl pickle liquor (prev. copper)	SE	Office/Shop Bldg.
2	42,000	Solvent	SE	Office/Shop Bldg.
2-A	21,400	previously cyanide	SE	Office/Shop Bldg.
3	N/A	previously waste acid	SE	Tank 19
3-A	7,100+	-	NW	Office/Shop Bldg.
4(tub)	N/A	-	NW	Tank 22
4-A	21,400	Cyanide	NW	Office/Shop Bldg.
5(tub)	N/A	-	NW	Tank 22
5	3,000	Silica etch (acid)	SE	Northern Pit
6-A	N/A	Cyanide	NW	Office/Shop Bldg.
8-A	N/A	Cyanide	NW	Office/Shop Bldg.
11	N/A	previously caustic	NW	Office/Shop Bldg.
12	N/A	previously waste acid	SE	Northern Pit
14	N/A	prev. alkaline etch	SE	Office/Shop Bldg.
15	15,400	Solvent	SE	Tank 20
16	N/A	-	NW	Cooling Tower
19	143,250	Oil-Water Sludge	NW	--
20	412,504+	Neutral Acid Sludge	SE	--
22	711,753	Fuel Oil & Asphalt	NW	--
23	3,500+	previously cyanide	NW	Office/Shop Bldg.
25	17,094	Solvent	SE	Tank 20
26	15,000	Cyanide	SE	Tank 20
28	18,000	Cyanide	NW	Office/Shop Bldg.
41	N/A	-	NW	Office/Shop Bldg.
CB-1	1,700+	previously process waste	NW	Cooling Tower
CB-2	1,200+	previously copper	SE	Office/Shop Bldg.
CB-3	10,000+	-	SE	Office/Shop Bldg.
CB-4	12,500+	-	SE	Office/Shop Bldg.
CDU-1	N/A	- SE	Tank 20	
CY-1	18,000	previously cyanide	SE	Tank 20
D-1	10,900	Solvent (partially CH_2Cl_2)	NW	Office/Shop Bldg.
DB-1	N/A	Cyanide	SE	Tower
DT-3	N/A	-	NW	Tank 19
F-1	N/A	previously copper	SE	Office/Shop Bldg.

TABLE 1CONSERVATION CHEMICAL COMPANYLOCATION AND CONTENTS OF STORAGE/TREATMENT TANKS
(Continued)

<u>Tank No.</u>	<u>Capacity Gallons</u>	<u>NW/SE from Hazardous Contents (if applicable)</u>	<u>Bisecting spur</u>	<u>Vicinity of major feature</u>
F-1	N/A	-	NW	Tank 19
F-2	N/A	-	SE	Office/Shop Bldg.
F-3	N/A	-	SE	Office/Shop Bldg.
F-4	N/A	-	NW	Tank 19
MT	N/A	-	NW	Cooling Tower
R-1	N/A	-	NW	Tank 19
R-3	N/A	-	SE	Northern Pit
R-15	5,000	previously copper	SE	Tank 20
R-17	N/A	-	NW	Tank 22
R-20	N/A	-	NW	Cooling Tower
R-21	N/A	-	NW	Cooling Tower
R-30	6,000	previously pickle liquor	SE	Office/Shop Bldg.
R-31	8,000	waste acid	SE	Tank 20
R-33	1,600	previously copper	SE	Northern Pit
R-38	N/A	-	SE	Northern Pit
RR-1	7,500	previously cyanide	SE	Northern Pit
RR-2	7,500	Cyanide	NW	Tank 19
Sphere	9,000+	Cyanide	SE	Tower
ST-1	N/A	Cyanide	NW	Tank 19
Tower	19,650+	Cyanide	SE	-
TR-38	N/A	Cyanide	SE	Tank 20
WC	N/A	-	NW	Cooling Tower
X	N/A	-	NW	Office/Shop Bldg.

Note: + designates largest volume noted in inventory records as less than full.

TABLE 1

CONSERVATION CHEMICAL COMPANY

LOCATION AND CONTENTS OF STORAGE/TREATMENT TANKS

(Continued)

The following information pertains to apparently abandoned tanks, which were included in previous inventories, but did not appear on the August 1982 site map.

<u>Tank No.</u>	<u>Hazardous Contents (if applicable)</u>	<u>Previous Inventory</u>	<u>Capacity Gallons</u>
6	Waste acid	1979 inventory	N/A
7	--	1979 inventory	N/A
8	--	1979 inventory	9,600+
10	Caustic	1979 and 1981	2,000+
18	Waste acid	1979 inventory	N/A
27	Hydrofluoric acid	1979 inventory	N/A
C-1	Cyanide	1979 and 1981	3,000
R-34	Previously copper	1979 and 1981	4,000
S-1	Cyanide	1979 and 1981	9,000

CONSERVATION CHEMICAL CO. ACTIVITIES

Conservation Chemical Co. has conducted operations at this site since April, 1967. The company manufactures iron salt coagulants, principally ferric chloride, by reaction of steel mill waste pickling liquor with chlorine and scrap iron. It is one of the principal suppliers nationwide of ferric chloride. The company is also a licensed transporter of hazardous materials. (IND 040888992).

The railroad spur which bisects the site is used for tank car loads of ferric chloride (product) as well as chlorine (raw material). Waste pickling liquor (raw material) is delivered by tank trucks entering over an unpaved road parallel to the spur. Activities connected with production of ferric chloride generally are limited to the process units and small storage tanks closest to the office/shop building.

Conservation Chemical Co. applied to the U.S. Environmental Protection Agency for hazardous waste storage permits on November 9, 1980. Their application acknowledged that other hazardous materials, including cyanides, chlorinated organic solvents, mixed copper-iron hydroxide sludge resulting from treatment of plating waste, and oily wastes have been stored in tanks at various locations around the site. (See Figure 2). The company maintains that these materials, like their current raw material and product inventory, are marketable and will be removed prior to acquisition of the site by the Airport Authority. The company also acknowledged that about 300 drums are stored on site, and

that some of these are "Recovery Drums" containing contaminated soil removed after a solvent spill.

The following sections describe problem areas at the site, based on sampling and analysis and visual inspection activities carried out by Havens and Emerson on behalf of the Airport Authority, supplementary information supplied by Conservation Chemical Co. and information on the Company from U.S. Environmental Protection Agency files released through Freedom-of-Information requests. (Copies of documentation and analytical laboratory reports are included in the Appendix.) Sampling activities on the site allowed by the Company were limited to test borings in the pie-shape basin, and the oily seepage into their backhoe pit. (Conservation Chemical Co. later granted permission for hand auger soil boring and analysis of samples so derived, however, after completion of the field activities in this study.)

The presentation of problem areas first considers the pie-shaped basin and soil contamination in adjoining areas directly in the path of the runway extension, proceeds to the disposition of tanks and drums containing hazardous materials and concludes with a discussion of present and potential future contamination of surface water and ground water. Following this, the conclusions of the present study and recommendations for further investigation and/or remedial action are summarized.

Pie-Shaped Basin

The area at the southern apex of the property, between the railroad spur and the foot of the main railroad embankment has been used as

a settling lagoon for disposal of hazardous waste materials. Its surface is elevated about four feet above the main plant area, apparently to ensure infiltration into the relatively high water table. Conservation Chemical Company estimated the surface impoundment volume at 600,000 gallons and the annual quantities as 500 tons of sludge resulting from lime treatment of spent steel mill pickle liquor (Hazardous Waste No. K062) and 2,100 tons of slop oil emulsion solids from petroleum refining (Hazardous Waste No. K049).

The surface material at the top of the basin consists mainly of very fine orangish solids (assumed to be principally ferrous hydroxide). The surface is flat except for "eruption" holes 6-12 inches in diameter, which are surrounded by small mounds of solids suggestive of large gas bubbles escaping through the mass of solids. The material has essentially no load bearing strength, and it was observed to yield readily at low stress. The employees refer to it as "quicksand" and tell of finding very deep footprint impressions of trespassers who walked across the basin. In sampling the basin solid materials, we found it possible to stand on the basin surface only with the aid of a wooden pallet to distribute weight over a large area.

The sampling of basin solids was limited to a ten foot wide zone across the northern end and to a depth of about six feet. Solid material from the five to six-foot depths appeared to be darker and more gritty than the surface solids. The samples were not obtained as discrete cores, since conventional soil boring rigs and hollow augers could not be used because of the basin material consistency. An

alternate technique enabled us to sample the solids from the limited zone described above, using a post-hole auger mounted at the end of a boom deployed from a truck backed up to the north edge of the basin. A single composite sample, believed to be representative of the top six feet for the entire basin, was produced and submitted for analysis to determine priority pollutants (except for volatile organic constituents). The results, as shown in Table 2, indicate high concentrations of phenols and heavy metals, as would be expected for solids in a lagoon used for disposal of refinery waste emulsion and neutralized steel mill pickling liquor. The complete analytical report is reproduced in the Appendix. The material is hazardous and will require off-site disposal at a hazardous waste disposal sites or chemical fixation treatment to permit on-site disposal.

The eruptions are difficult to explain except as gas emissions from buried materials, which may be either gases released by reactive material in buried containers upon contact with water, or by decomposition of putrescible material. The employees' remarks suggested that eruptions occur only during the warmer months, but we noted apparently fresh eruptions at midwinter. Sampling of the atmosphere inside fresh eruption holes would be needed to provide definitive identification of any gases evolved. Permission for such sampling was requested of Conservation Chemical Co., but is still pending.

A preliminary survey with remote sensing electromagnetic instruments (e.g., magnetometers) was considered, to resolve the question of buried reactive waste containers as a source of the eruptions.

TABLE 2

HAZARDOUS MATERIAL CHARACTERIZATION OF PIE-BASIN SOLIDS

(> >)

	<u>ug/gram air dried solids</u>	
	<u>Concentration</u>	<u>Detection Limit</u>
Organics		
Acid extractables		2-20
Phenol	11	2.0
Base Neutral extractables	N/D ^{a)}	10-25
Pesticides/PCB's	N/D	10
Inorganics		
Cyanides	30	0.15
Phenols	10	0.4
Heavy metals		
Antimony	4.9	0.05
Arsenic	0.58	0.05
Beryllium	1.5	0.02
Cadmium	11	0.02
Chromium	12,300	0.1
Copper	5,100	0.1
Lead	170	0.2
Mercury	0.33	0.0002
Nickel	660	0.1
Selenium	N/D	0.05
Silver	10	0.06
Thallium	0.31	0.05
Zinc	980	0.02

a) Below Detection Limit

Note: Samples digested with nitric acid before analysis.
 See Appendix for other details on methods of chemical analysis.

Revised: January, 1984

However, it was not recommended since the technique has accuracy limitations and removal of at least five feet of surface materials at the top of the basin must proceed in any event to reach the grade level for the runway.

Some remedial action in the basin is certain to be required, but the nature of the action cannot be fully defined at present. The initial sampling of basin material was too limited in extent to define the amount of material to be removed beyond the grading requirement. Disposal elsewhere on the site or by landfill should be arranged for the solids removed from the basin. The remedial action must also eliminate or control the eruptions. Alternatives for remedial action in the basin are evaluated in the section on additional studies and remedial actions.

Tanks and Process Units

Conservation Chemical Company handles an estimated 15,000 tons/year of spent steel mill pickling liquor (Hazardous Waste No. K062), somewhat more than half of their nominal 25,000 gal/day process design capacity according to their hazardous waste permit application dated November 18, 1980. In addition to this "mainline" production, their application specifies 620,000 gallons of tank capacity and estimated annual quantities of other hazardous materials as follows:

Solvents - 260 tons

- (F001) spent halogenated solvents and degreasing sludges
- (F002) spent halogenated solvents and still bottoms
- (F003) spent non-halogenated solvents and still bottoms
- (F005) spent non-halogenated solvents and still bottoms

Electroplating waste sludges - 2000 tons

(F006) wastewater treatment sludges from electroplating,
including sludge from neutralization of spent pickle
liquor (K063).

Spent Plating Baths - 450 tons

(F007) spent electroplating baths
(F008) plating bath sludges (bottoms)
(F009) spent stripping and cleaning baths

The Company submitted its Closure Plan to EPA on July 2, 1981, as well as earlier inventories of stored materials dated March 12, 1979; May 26, 1981 and June 1, 1981. Based on this information, the record of an EPA inspection on November 19, 1980 and a Company site map sketch dated August 2, 1982, the list of storage and treatment tanks containing hazardous materials as of December 9, 1982, (or previously used for hazardous materials) in Table 1 was compiled, and their locations were shaded on Figure 2.

- . The solvents consist of about 85,000 gallons of methylene chloride-hydrocarbon mixtures. Analysis of samples in tanks 2, 15 and 25, as reported to Conservation Chemical Co. by General Testing Laboratories, Inc. of Kansas City, Missouri, showed organic chloride content of 8.5% to 14.5%, apparently based on specific gravity measurements. This may not be representative of current material, since inventory records indicate a net influx of about 42,000 gallons of solvents since 1979. The Company maintains that all stored solvents are marketable and will be removed upon sale.
- . The cyanides consist of about 150,000 gallons of low level plating wastes. Analysis of a partially solidified sample taken February 14, 1979 and reported to Conservation Chemical Co. in April, 1979 by General Testing Laboratories, Inc. of Kansas City, Missouri, showed the expected highly alkaline solution (pH 13.2) containing 1,187 mg/l zinc and 33 mg/l cadmium, as well as appreciable concentrations of nickel and chromium, which would suggest the origin of the waste as combined electroplating rinse wastewater from both cyanide

and acidic baths. This is not to be taken as representative of present material, since inventory records indicate a net influx of 78,000 gallons of cyanides since 1979. The inventory records also indicate shifting of cyanide storage to tanks away from the ferric chloride processing area and possible accidental exposure to acids, which was a concern expressed in the EPA inspection. The Company acknowledged that the cyanides are not marketable, and their 1981 closure plan called for destruction of the cyanides by chlorination under alkaline conditions, to be carried out on site at an estimated cost of \$25,000.

- . Tank 20 contains 412,504 gallons of "neutral acid sludge" resulting from neutralization of waste pickling liquor. Analysis of the material reported to the Company by General Testing Laboratories, Inc. of Kansas City, Missouri on June 23, 1978 shows 27.5% solids (5.50% iron, 1.78% chromium, 1.06% copper, 0.42% zinc, 0.14% nickel and ppm quantities of lead and cadmium) and the liquid phase containing 40 ppm chromium, 75 ppm copper, 14 ppm nickel and lesser amounts of the other metals. The analysis, which is similar to that of the pie basin solids (See Table 2) suggests that the chromium and copper may be present as a result of mixing spent electroplating or etching baths with pickle liquor. The material is hazardous, but no mention of it is made in the closure plan.
- . Fuel oil in Tanks 19 and 22 is probably marketable, although the presence of asphalt in Tank 22 may decrease its value. There is no mention of the fuel oil in the closure plan.
- . Small quantities of corrosive materials (other than steel pickling liquor) were present as of the May 1981 inventories, including 8,000 gallons of waste nitric acid and 2,000 gallons of caustic. Subject to analysis for hazardous contaminants, there should be no problem in neutralization and disposal of these materials.

The tower and all storage tanks, being within the 750-foot building limit, must be demolished in any event. The Company maintains that all materials stored in tanks (except for the neutral acid sludge) is marketable and will be removed prior to the property being turned over to the Airport. On this premise, sampling and analysis of the tank contents should be a condition of the title transfer, to verify that

the tanks have been decontaminated adequately for conventional dismantling and off-site disposal. Also, soil in the tank areas must be sampled for contamination by chemical spillage.

Drums and Containers

Conservation Chemical Co. acknowledged the presence of about 300 drums on the site, including a few drums of ferric chloride product. The hazardous waste permit application of November 18, 1980 indicates 100,000 gallon total storage capacity for containers and notes that they planned to receive less than truckload quantities of hazardous materials in drums and accumulate some of them at the plant until a truckload quantity of compatible material could be assembled for shipment to an approved landfill. The Company also disclosed plans in some cases to de-drum and store hazardous waste materials in bulk until truckload quantities are accumulated for transportation to an approved treatment facility.

The EPA inspection on November 19, 1980 found drums at several locations on the site besides the designated main drum storage area, and noted some drums as being empty or "mostly empty". Our visual inspections in December, 1982, (carried out with the cooperation of the plant manager) found drums at essentially the same locations. The Main Drum Storage Area and two other areas northwest of the railroad spur have large numbers of drums, as noted on Figure 2. Many drums appeared to be empty or to contain only rainwater. Some of the metal drums were badly rusted or broken; in some drums the plastic liners were also broken. Labels on the drums were checked, particularly those with hand

lettering that suggested reuse involving a hazardous material after the original contents had been consumed.

Our inspection found 35 "Recovery Drums" scattered about 6 different locations on the site. These distinctive yellow metal drums are marketed specifically as containers for damaged or leaking drums or spilled materials. The plant manager indicated that most of these held contaminated soil removed from the site after a solvent spill. Two of the three open Recovery Drums were seen to hold some soil. Disposal of the Recovery Drums will require determination of present solvent content.

Our inspection also revealed two drums containing chemistry laboratory reagent bottles, which could be seen through the severely rusted metal. Many of the visible reagent bottles contained solid residues. Disposal of these and other similar drums will require time consuming manual classification according to apparent hazard class.

Conservation Chemical Co. maintains that it will arrange for reclamation or proper disposal of all drums on the site prior to title transfer. On this premise, extensive sampling and analysis of materials stored in the drums would only be necessary if the Company is unable to fulfill their plan.

Soil at the drum storage areas noted on Figure 2, particularly near drums suspected of containing hazardous waste material, should be tested for contamination and removed if there is potential for leaching hazardous materials into the groundwater.

Structures

The pits marked in Figure 2 are usually filled with water. The southern pit, which is adjacent to the pie-shaped basin, has top elevation 592.0 feet and must be at least partially demolished for grading. The northern pit serves as the sump for drainage of the entire process area between the office/shop building and the railroad embankment. Neither of these pits showed a noticeable accumulation of oil during our site inspections and other on-site activities.

Under adverse circumstances the pits could concentrate contamination from surface water runoff or seepage leaking into them, and subsequently release the contamination under severe storm runoff conditions. Water collected in the pits should be sampled and analyzed for hazardous pollutants, as a check on present contamination of surface water and ground water. Both pits should be demolished and filled with clean soil, since they would present a safety hazard for Airport personnel quite independent of hazardous waste material exposure.

The office/shop building and other minor structures, including a roofed former loading area near the northern pit and a storage shed for scrap iron will be demolished, as necessary for compliance with the building limit. Soil borings should be taken near the pits and other structures, to check for contamination due to chemical spills.

IDENTIFICATION OF OTHER HAZARDOUS WASTE PROBLEMS

Contamination of soil and the resultant present and future contamination of ground water and surface water runoff must be considered, in addition to the site preparation activities necessitated by hazardous waste materials discussed previously. Because of the limited potential for worker or resident exposure to toxic hazards and the apparent absence of drinking water wells in the vicinity using the shallow groundwater aquifer, the principal concern is for contamination reaching the Grand Calumet River and/or Lake Michigan, the latter being the principal water supply for Gary and the northwestern Indiana - northeastern Illinois metropolitan area.

Soil Contamination

Conservation Chemical Co. has acknowledged soil contamination on the site. Pursuant to Agreed Findings of Facts and an Agreed Recommended Order adopted by the Stream Pollution Control Board of the State of Indiana on March 23, 1973, the Company agreed to cease and desist from "placing treated or untreated chemical wastes on the land," particularly in the diked areas around the large storage tanks.

The company presently monitors pH when ponding of surface water occurs in an area northwest of the bisecting railroad spur, between the pie-shaped basin and Tank 19 (See Figure 2.), and pours soda ash powder on, as necessary to neutralize excessive acidity. Insitu neutralization with lime or limestone will be required for the acid soil, but the extent and degree of acid contamination has not been determined. The company delayed granting permission for soil sampling needed to define

this until after completion of field activities for this study.

Soil contamination elsewhere on the site is a definite possibility. The most likely areas are in the vicinity of process units and tanks that have contained hazardous materials and drums suspected of containing hazardous materials, as indicated previously. Soil in the path of the taxiway extension must be tested for acidity and other chemical contamination which would require off-site disposal as a hazardous material for any such soil removed for grading.

Surface Water Contamination

Runoff of surface water containing oily material has been noted in an airport drainage ditch adjacent to the railroad embankment that forms the southeastern property line between the Airport and Conservation Chemical Co. It has been speculated that this may originate on the project site, but definitive information is lacking.

Conservation Chemical Co. acknowledges excessive acidity in ponded surface water in the area to the south of Tank 19, as noted previously under soil contamination. The company presently neutralizes the surface water by pouring on soda ash powder.

Groundwater Contamination

Some degree of groundwater contamination from past and present activities at the Conservation Chemical Co. site is likely, but it remains to be determined whether this is significant. The shallow groundwater aquifer (the Calumet aquifer) is not a significant water resource, and there are no known residential wells using it in the

plant vicinity. However, groundwater contaminant migration may release hazardous materials into the Grand Calumet River or Lake Michigan (1).

Groundwater monitoring wells were placed outside the site but near the property lines, as shown on Figure 2. Two wells are located on airport property, directly across the railroad embankment from the southern and eastern apex points of the triangular property. Two wells on the western side of the site are located on Elgin, Joliet and Eastern Railroad right-of-way. The railroad's letter granting permission for the soil boring and subsequent groundwater monitoring is included in the Appendix. (Permission was also requested of Conservation Chemical Co. and adjacent property owners for such wells on their property, but was not granted.) The water table at the western wells was encountered below apparently oil saturated soil. The ground water at the eastern and southern wells was yellowish and turbid, indicating probable contamination.

Analysis of the groundwater samples, as summarized in Tables 3 and 4, showed detectable concentrations of volatile chlorinated organic solvents, cyanides, phenols and heavy metals. Comparison of concentrations observed at the east side wells in March 1983 (Table 3) and in June 1983 (Table 4) shows some decrease in contamination over the months between sampling. Groundwater on the western side of the site, as seen in Table 4, is more contaminated than on the eastern side, with generally higher concentrations and a larger number of priority pollutants detected.

TABLE 3
RESULTS OF INITIAL GROUND WATER SAMPLING
March 4, 1983

	<u>Well Locations</u> ^{a)}		<u>Comparison Criteria</u>	
	<u>Eastern</u>	<u>Southern</u>	<u>Detection Limit</u>	<u>Drinking Water Standard</u>
Volatile Organics				
Methylene chloride, ug/l	14	N/D	10	--b)
Acid Extractable Organics	N/D ^{c)}	N/D	25-250	var ^{d)}
Base-Neutral Extract Organics	N/D	N/D	10-25	var
Pesticides/PCB's	N/D	N/D	10	var
Inorganic				
Cyanides, mg/l	.01	N/D	.01	.01
Phenols, mg/l ^{e)}	.31	N/D	.01	.001
Heavy Metals				
Zinc, mg/l	.24	.23	.02	5.0

- a) East side of site only; Refer to Figure 2
- b) No applicable standard
- c) Below detection limit
- d) Varies for different contaminants
- e) Other heavy metals (Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver and Thallium) were below their detection limit.

Note: See Appendix for details on methods of chemical analysis.

TABLE 4
RESULTS OF GROUNDWATER MONITORING
June 27, 1983

	<u>Well Locations (See Figure 2)</u>			
	<u>West Side of Site</u>		<u>East Side of Site</u>	
	<u>Northwest</u>	<u>Southwest</u>	<u>Eastern</u>	<u>Southern</u>
Surface Elevation	593.7	594.2	589.7	591.0
Water Level at Sampling	586.9	586.6	584.8	584.0
Sample Characteristics	base- reactive (white)	acid- reactive (black)	yellow and turbid	yellow, turbid, foul odor

HAZARDOUS MATERIAL CONCENTRATIONS

Volatile Organics, ug/l				
Benzene	35	N/D ^{a)}	N/D	N/D
1,1-Dichloroethane	24	36	N/D	N/D
1,2-Dichloroethane	1,600	200	N/D ^{b)}	N/D
Methylene chloride	N/D	45	N/D	N/D
Vinyl chloride	12	10	11	N/D
Acid Extractable Organics	N/D	N/D	N/D	N/D
Base/Neutral Extractable Organics ug/l				
Isophorone	38	24	N/D	N/D
Pesticides/PCBs	N/D	N/D	N/D	N/D
Inorganics, mg/l ^{c)}				
Arsenic	N/D	.2	N/D	N/D
Beryllium	N/D	.02	N/D	N/D
Cadmium	N/D	.06	N/D	N/D
Chromium	.10	N/D	N/D	N/D
Copper	N/D	.2	N/D	N/D
Mercury	.0008	.003	.002 ^{d)}	.0004 ^{d)}
Nickel	1.1	.9	N/D	N/D
Silver	N/D	.2	N/D	N/D
Thallium	N/D	.6	N/D	N/D
Zinc	N/D	.2	N/D ^{e)}	N/D ^{c)}
Cyanide	.15	.5	N/D ^{f)}	N/D
Phenols	.05	.28	.028 ^{g)}	.06 ^{d)}

- a) Below detection limit.
b) Detected at 14 ug/l in initial sampling (Table 3).
c) Antimony, Lead and Selenium not detected in any sample tested.
d) Not detected in initial sampling (Table 3).
e) Detected at .23-.24 mg/l in initial sampling. (Table 3)
f) Detected at .9 mg/l in initial sampling. (Table 3)
g) Detected at .31 mg/l in initial sampling. (Table 3)

Note: See Appendix for details on methods of chemical analysis.

Observations of groundwater levels noted in Table 4 indicate an apparently significant west to east gradient as well as the expected north to south down-gradient direction for ground water flow (toward the Grand Calumet River) on both sides of the Conservation Chemical Co. property. Additional observations at these and other wells on adjacent property are needed to establish definitive directions for groundwater flow. Pending those results, it would be premature to speculate as to whether the groundwater contamination does or does not originate on the site.

However, it is definite that groundwater on the Conservation Chemical Co. site has been contaminated with oily material, at least at the oily seepage location designated on Figure 2. A backhoe pit excavated by the Company in February, 1983 to a 5.5-foot depth (elevation 586±) filled with oily seepage and had a thick surface layer of oily material when sampled. (Conservation Chemical Co. verbally granted permission for this sampling.) Subsequent chemical analyses showed no detectable quantities of either pesticides or PCB's. The report from the testing laboratory is appended.

It remains to be evaluated whether this oily seepage is related to fuel oil leakage losses from Tank 19 mentioned by the company, or the oil saturated soil encountered in boring the western wells near Tank 19 or to oily seepage observed due east of the pit (apparently through an outcrop in the eastern side of the railroad embankment), into a drainage ditch on airport property which eventually discharges into the

Grand Calumet River. The source and extent of the oil contamination cannot be assessed without additional test pits or soil boring.

Groundwater contamination due to leaching of hazardous materials from abandoned piping is possible. There may be buried pipes from the refinery virtually anywhere on the site, as has been our experience elsewhere at similar facilities. Electromagnetic instrumentation (magnetometers or eddy current) could be used for a surface (remote sensing) survey mapping of the buried piping system. However, it is not recommended to undertake such a survey unless actual leakage occurs affecting groundwater or surface water.

REMEDIAL ACTIONS

Remedial actions to alleviate hazardous waste problems at the Conservation Chemical Co. property were considered, including excavation, dredging, landfill disposal, chemical fixation, insitu treatments, gas migration controls, groundwater control and surface sealing. The discussion of remedial actions in the following paragraphs is organized according to locations and types of problems.

Cost Estimate

Preliminary cost estimates were developed following the general methodology presented in the EPA Remedial Action Handbook (2) and within the limitations and uncertainties of available data. Table 5 summarizes the results for both best case and worst case conditions. The total of costs for remedial actions at the Conservation Chemical

TABLE 5

SUMMARY OF COST ESTIMATES FOR
HAZARDOUS WASTE REMEDIAL ACTIONS AT
CONSERVATION CHEMICAL COMPANY

	<u>BEST</u> <u>CASE</u>	<u>WORST</u> <u>CASE</u>
<u>Pie-Shaped Basin</u>		
Removal of 4,500 to 9,000 cubic yards	\$ 25,000	\$ 50,000
Solidification and Landfill Disposal	360,000	1,575,000
Alternatives:		
Lime/Fly Ash Solidification and		
100-140 mile haul @ \$110-175/CY,		
or		
Chemical Inactivation ^{a)}		
and 30 mile haul @ 80-105/CY		
Backfill, 0 to 4,500 cubic yards	0	115,000
@ \$20-25/CY		
Subtotal	<u>\$385,000</u>	<u>\$1,740,000</u>
 <u>Acid Soil Zone</u>		
Neutralization of 5,000 to 20,000 sq. ft.		
at 50 to 500 lb lime/1,000 sq. ft.	\$ 100	\$ 500
 <u>Oil Contaminated Groundwater</u>		
Alternatives:	\$ 25,000	\$ 775,000
Collection Well @ 25,000,		
or		
Removal of 1,000-9000 cubic yards,		
landfill disposal and replacement		
@ 85/CY		
Tank Dismantling (Tank 19)	<u>25,000</u>	<u>25,000</u>
Subtotal	\$ 50,000	\$ 800,000
 <u>Neutral Acid Sludge (Tank 20)</u>		
Removal of 2,100 cubic yards,	\$ 20,000	\$ 20,000
Tank Dismantling and		
Solidification and Landfill	20,000	20,000
Disposal @ \$75-100/CY ^{a)}	<u>160,000</u>	<u>210,000</u>
Subtotal	\$200,000	\$ 250,000

TABLE 5 (CONTINUED)

SUMMARY OF COST ESTIMATES FOR
HAZARDOUS WASTE REMEDIAL ACTIONS AT
CONSERVATION CHEMICAL COMPANY

	<u>BEST</u> <u>CASE</u>	<u>WORST</u> <u>CASE</u>
<u>Additional Areas of Contaminated Soil</u>		
Removal of 0 to 34,000 cubic yards landfill disposal and replacement @ \$85/CY	\$ 0	\$2,900,000
<u>Dismantling and Decontamination of Other Tanks</u>	\$ 0	\$ 450,000
a) Chemical Inactivation acceptable only if demonstrated to render the basin solids non-hazardous.		
<u>Subtotals</u>		
Pie-shaped basin	\$385,000	\$1,740,000
Acid soil zone	100	500
Oil contaminated groundwater	50,000	800,000
Neutral acid sludge (Tank 20)	200,000	250,000
Additional areas of contaminated soil	0	2,900,000
Dismantling and decontamination of other tanks	<u>0</u>	<u>450,000</u>
TOTAL (rounded)	\$640,000	\$6,900,000

Co. site is seen to range from \$640,000 if all uncertainties follow the best case outcome to \$6,900,000 for all worst case outcomes.

Pie-Shaped Basin

Grading for the runway extension will require removal of material from the pie-shaped basin, at least to a depth of about six feet overall (sea level elevation 589 feet), which will displace at least 4,500 cubic yards of waste solid material containing heavy metals, cyanides and phenols. Larger quantities, as much as 4,500 additional cubic yards, may have to be displaced to insure that all hazardous waste materials and the (currently unknown) sources of eruptions are removed. The estimates for removal and disposal reflect anticipated difficulties in handling the basin solids.

Removal by bulk excavation is costed for use of dragline shovels and end loaders. Hydraulic dredging may be necessary as a costlier removal alternative if the solids consistency is too thin for excavation.

Two alternatives are presented for disposal of the basin solids: either off-site landfilling at a facility certified to accept this type of waste material or chemical inactivation (fixation) of the hazardous constituents, which makes on-site disposal or more convenient off-site disposal feasible. Both of these alternatives involve addition of a bulking or solidifying material. The cost estimates use conservative assumptions for the dosage, which can only be guessed until bench scale testing before or during the site work. Lime and flyash or other waste

material would be used only to stabilize the basin solids and eliminate free liquid as necessary for hauling, which is anticipated to increase the tonnage hauled by 50% to 100%. The nearest landfill sites certified to accept waste material containing significant leachable chromium are 100 to 140 mile hauls. Accordingly, chemical fixation using silicates seems attractive for savings of haul costs despite higher treatment costs, provided that favorable experience elsewhere with rendering similar waste materials non-hazardous can be repeated here and verified in bench scale tests on pie-basin solids.

Control of the eruptions is an additional objective for remedial action at the pie-basin. In principle, venting of the gases could be an acceptable alternative to uncovering and removing the currently unknown source of eruption gases. However, providing the required gas interception trenches, vent piping and blowers for the 20,000 square foot basin is estimated to cost about \$500,000 initially, plus ongoing additional costs for operation and maintenance (for example, costs for flaring of flammable gases or treatment for toxic gases). It seems preferable to excavate deep enough in the basin to uncover and remove the sources of eruption.

Backfill will be needed for excavation below the six-foot depth. Displaced soil would have to be tested for EP toxicity before it could be returned as backfill. Inactivated basin solids, if nontoxic, could also serve as backfill.

Acid Soil Zone

The extent of the acid soil zone north of the pie-basin and the concentration of residual acidity are not known, pending soil sampling and analysis. Provided that the analyses do not reveal additional hazardous materials present there, insitu treatment by addition of lime or limestone is an inexpensive and effective remedial action. The cost estimate conservatively assumes that the affected zone may reach almost to Tank 19 and cover as much as 20,000 square feet.

Taxiway

Remedial action at the taxiway extension would be needed only if the soil analysis and/or groundwater monitoring show significant contamination. The cost estimate is for the worst case anticipated, requiring removal to a depth of six feet for a 75 foot wide swath, and hauling for off-site disposal. The clearing and grading for the taxiway extension will also involve dismantling and/or demolition of Tanks 19 and 20, which are discussed separately in the following sections.

Tank 20 (Neutral Acid Sludge)

Some 2,300 cubic yards of neutral acid sludge solids contained in Tank 20 must be removed for disposal. This material is anticipated to be very much like the pie-basin solids; whatever is done for them will also be done for the neutral acid sludge. The cost estimate includes

partial dismantling of the tank roof to provide access for removal of the sludge with a clamshell shovel.

Oil Contaminated Groundwater

Leakage of fuel oil from Tank 19 is suspected as the source of oil contamination discovered at a test pit dug in February, 1983, which may affect an area reaching westward toward the monitoring wells on that side of the property and eastward across the oily seepage pit to the railroad embankment. The oil would float at the top of the water table, but would be swept along by high flows.

The extent of the oil plume is unknown, as is the concentration of oil. The cost estimate assumes as a worst case removal of a swath, about 25 wide as Tank 19, and demolition or dismantling of the tank as required for the taxiway grading.

Some removal of soil overlying the suspected oil plume is anticipated to achieve the desired grading and surface water drainage. Disposal of this soil by landfilling would be required, if soil sampling and analysis or groundwater monitoring shows the presence of new hazardous materials. The cost estimate includes a lower cost alternative enlarging the existing pit into a collection well for treatment to remove hazardous constituents, and pumping the treated groundwater for further treatment and disposal via Gary Sanitary District facilities.

Additional Areas of Contaminated Soil

The estimate includes as a contingency the possibility that additional areas of contaminated soil are present on the site. In the worst case outcome, all soil not handled for other remedial actions may have to be removed for disposal at a secure landfill and replaced with clean fill soil.

Other Tanks

The estimate anticipates that Conservation Chemical Co. will have completed removal of marketable "materials in process" from tanks and hauled all drums away for off-site disposal. The remaining tanks would have to be decontaminated before dismantling and disposal/salvage.

RECOMMENDATIONS

Remedial action on the part of the Gary Municipal Airport Authority will be delayed, pending acquisition of the property and resolution of the uncertainties discussed in the preceding section. Initial actions are recommended below, together with recommendations for a sampling program to define the extent of additional remedial actions.

Initial Remedial Actions

1. Solids contained in the pie-shaped basin are mechanically unsuitable for the runway and taxiway extension and should be removed to a depth of at least 6 feet. The gas sampling and analysis recommended below should be carried out before any excavation activities, to define the hazards associated with gas eruptions. During the removal, solid materials will have to be collected in Removal Drums and stored, pending, verification of the initial limited sampling for hazardous components, and results of chemical fixation tests.

2. "Neutral acid sludge" in Tank 20 is similar to the pie basin solids and should be removed for ultimate disposal together with the pie basin solids.
3. Contamination of ground water by oil seepage is acknowledged from a leak in Tank 19, and, there may be other sources. Tank 19 should be emptied and abandoned at the earliest practicable date. In any event, oil collection equipment should be installed at the existing seepage pit, and recovery or disposal arranged.

Sampling and Analysis

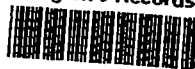
1. Monitoring gas emissions from eruptions on the pre-shaped basin and, if possible, identification of the source material.
2. Sampling of acid contaminated soil, to guide the choice of removal versus insitu neutralization for remedial action.
3. Soil sampling elsewhere on the property, particularly in the vicinity of process units, tanks and drum storage areas, to define the extent and severity of contamination and evaluate potential for future contamination of surface water and ground water.
4. Ground water monitoring using the existing wells and new wells within the site boundaries to determine whether the ground water contamination already noted originates on the Conservation Chemical Co. site.
5. Inspection of tanks, process units and drums and sampling of stored material, to assess potential salvage and recovery versus disposal.
6. Bench or pilot scale testing of chemical fixation for the pie basin solids and the "neutral acid sludge" in Tank 20, to guide the selection of ultimate disposal methods for these materials.

REFERENCES

1. E.J. Hartke, J.R. Hill and M. Reshkin, "Environmental Geologies of Lake and Porter Counties, Indiana - an Aid to Planning," Environmental Study 8, State of Indiana Department of Natural Resources, Geological Survey Special Report, November, 1975, pp. 25-27.
2. "Remedial Action at Waste Disposal Sites" U.S. Environmental Protection Agency, Technology Transfer Handbook, EPA 625/6-82-006, June 1982.

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EPA Region 5 Records Ctr.



224902

PRELIMINARY SAMPLING INVESTIGATION
OF
CONSERVATION CHEMICAL
GARY, INDIANA

TDD R05-8404-05

PREPARED BY: Heidi Smith
SUBMITTED TO: Don Josif
DATE: May 14, 1984

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APPENDIX A

SECTION 1 - INTRODUCTION

The United States Environmental Protection Agency (U.S. EPA) Region V requested the Field Investigative Team (FIT) to conduct a hydrogeologic investigation of Conservation Chemical Company, Gary, Indiana. Pursuant to Technical Directive Document (TDD) R05-8307-01, drilling specifications were completed, monitoring wells were installed, groundwater samples were collected and analyzed. In addition, survey work was performed and a report was to be written and submitted to the U.S. EPA. Results of this investigation, would provide documented evidence toward establishing whether enforcement response at this facility would be necessary.

Although the General Task Description for TDD R05-8307-01 was to conduct a full hydrogeologic study of Conservation Chemical, U.S. EPA contact Jim Pankanin in consultation with Ecology and Environment hydrogeologist Ron St. John deemed a full hydrogeologic investigation unnecessary. As a result, only a preliminary investigation was conducted to provide data to aid in the Hazardous Ranking System (HRS) scoring of the facility. With the reduced scope of work, a formal report of activities and results was not prepared under TDD R05-8307-01.

The following report was prepared under TDD R05-8404-05. This formal report was deemed appropriate at this time to answer questions which have arisen on the extent of FIT activities at the facility.

SECTION 2 - GENERAL BACKGROUND

2.1 SITE DESCRIPTION

Conservation Chemical Company is located at 6500 Industrial Highway (U.S. Route 12) in Lake County, Gary, Indiana. The Conservation Chemical property is a triangular, 4.1-acre parcel just northwest of the Gary Municipal Airport boundaries. The Elgin, Joliet and Eastern Railroad right-of-ways bound the property on two sides (see Plate 1).

Conservation Chemical began operations in 1967. Prior to that time, the Conservation Chemical site and adjoining parcels were the site of Berry Oil Company Petroleum Refinery. Tanks, drums and other containments left on-site by Berry Oil have been utilized by Conservation Chemical. In addition to petroleum refineries, the immediate area is heavily industrialized, predominantly with steel mills, to the north and west.

The basic activity of Conservation Chemical Company is the conversion of industrial wastes into forms which are acceptable for disposal or reuse. The site stores and treats spent acid, oil and solvents and produces ferric chloride. To produce the ferric chloride, Conservation Chemical generally treats ferrous chloride pickle liquor from steel mills with chlorine gas which is brought in by railroad tank cars.

Scrap is also added to increase the concentration of ferric chloride or to remove the free acidity by conversion to the iron salts. Due to the irregularity and variety of incoming materials, a wide range of processes and treatment techniques are required to effectively handle these materials.

2.2 TOPOGRAPHY AND SURFACE WATER

The site topography is relatively flat ranging from an elevation of 595 feet in the southern "pie basin" to 590 feet along the north-east boundary. The surrounding surface water drainage is southward toward the Grand Calumet River; however, because of the on-site railroad embankments, drainage on the project site is northward (Havens

and Emerson, 1983). It is unlikely that on-site contaminated surface water would drain into the Grand Calumet River.

2.3 GEOLOGY

As the topography section mentions, the site is relatively flat with dunes and beach ridges which denote the Calumet lacustrine plain. Approximately 150 feet of unconsolidated glacial deposits lie above the bedrock. The upper unit of this deposit is the Atherton Formation consisting of fine to medium silty sand with interbedded beach gravel, silt and clay. The upper 50 feet of the Atherton Formation is Wisconsinan glaciolacustrine sand and gravel in the form of bars, spits, beach ridges and dunes (Havens and Emerson, 1983).

The underlying bedrock consists of closely jointed Niagaran dolomites and cherty limestones of the middle Silurian. The bedrock dips southeastward at five to seven feet per mile into a westward-extending arm of the Michigan basin (Havens and Emerson, 1983).

2.4 SOIL

The original soil in the site area was classified as the Oakville-Tawas complex. The composition of this soil is roughly 45% Oakville fine sand, 45% Tawas muck, and 10% Maumee loamy fine sand and gently sloping Oakville sand. The hydraulic conductivities range from 4.4×10^{-4} to 1.4×10^{-3} cm/sec in the muck to greater than 1.4×10^{-2} cm/sec in the fine sand (USDA, 1972). These high permeabilities yield a high potential for groundwater contamination. The near surface soil profile may have been disturbed by construction activities on the site.

SECTION 3 - PREVIOUS INVESTIGATIONS

As previously noted, the area around Conservation Chemical Company is and was heavily industrialized; as a result, the subject facility and other industrial concerns have been the focus of governmental and private investigations. Ecology and Environment conducted an initial hydrologic investigation and soil sampling in April 1982, with a follow-up site survey in June 1982 prior to initiation of this project.

The Indiana State Board of Health, Stream Pollution Control Board and the Indiana Department of Conservation, Division of Water Resources and the U.S. EPA have been monitoring and investigating activities of Conservation Chemical since 1972. In one specific instance, the Indiana State Board of Health investigated a solvent discharge which occurred on December 22, 1981. Their investigation included sampling the pooled liquid and monitoring the cleanup.

In August 1983, an extensive study of Conservation Chemical conducted by Havens and Emerson, Incorporated, consulting engineers, for the Gary Municipal Airport Authority in relation to possible acquisition of the facility as part of an airport development project. The study involved the identification of on-site hazardous materials, the determination of soil and groundwater contamination and an estimation of the costs required to cleanup the site. The major consensus of these investigations verifies that hazardous wastes are present on-site and the groundwater and on-site soil has been affected.

Ecology and Environment conducted a population survey of groundwater usage in the vicinity of the Midco II site to the east of Conservation Chemical (Lunsford, 1984). The information from the population survey was useful in the preparation of the HRS score since Conservation Chemical is within one (1) mile of Midco II.

SECTION 4 - ECOLOGY AND ENVIRONMENT INVESTIGATIVE TECHNIQUES

In July 1981, Ecology and Environment was given the task of drilling, installing, and sampling monitoring wells at Conservation Chemical pursuant to TDD R5-8307-01. On October 7-10, 1983, three sets of monitoring wells were installed on site (C1 and C2, C3 and C4, C5 and C6). Plate 1 indicates the locations of the well nests. Wells C1, C3 and C5 were deep wells set at depths of 41 feet, 40 feet and 25 feet respectively. The shallow wells, C2, C4 and C6, were set at 12 feet, 15 feet and 15 feet. The bore holes were advanced by a hollow stem auger to the desired depth. Soil samples were taken by split spoon sampling techniques during the advancement of the holes. The monitoring wells were constructed with flush threaded, 2-inch inside diameter (I.D.) galvanized pipe with a 2-inch I.D. 10 slot stainless steel well screen. The wells were grouted with a cement mixture. A steel protector casing and lock were also installed on each well.

The well logs for these monitoring wells are presented in Appendix A. Monitoring well C2, with a top-of-casing measurement of 100 feet, served as the reference well depth. The well logs note a tan, well sorted, fine to medium grain sand. Black oily sand was detected in monitoring wells C1 and C5 at approximately 24 to 25 feet, and a water-oil mixture was found at a 7-foot depth in well C2. The oily sand may be a resultant of Berry Oil's previous operations, a nearby industry, or a more recent incident related to Conservation Chemical. Water levels in the wells were measured October 18, 1983 and are presented in Table 1.

TABLE 1: WATER ELEVATIONS OF MONITORING WELLS AT
CONSERVATION CHEMICAL, GARY INDIANA

WELL	GROUND ELEVATION (Ft)	TOP OF CASING (Ft)	DEPTH TO WATER TABLE (Ft)	ELEVATION OF WATER TABLE (Ft)
C1	97.49	100.31	7.06	90.43
C2	97.56	100.00	6.54	91.02
C3	98.05	101.60	6.78	91.27
C4	97.84	99.58	6.57	91.27
C5	97.56	100.50	7.66	89.90
C6	97.39	99.76	7.45	89.94

U.S. EPA protocol was observed for the monitoring well surface water and sediment samples. Two sediment samples were taken just off site; one upgradient to the northeast (SED 1) and the other downgradient to the southwest (SED 2). In addition, a surface water sample, SW-1, was taken in wetlands near the Sediment 1 (SED 1) sample (see Plate 1 for locations). The samples were collected in November 1983 and were analyzed for volatiles, organics, inorganics, and pesticides.

SECTION 5 - ANALYTICAL RESULTS

The organic analyses of the samples are presented in Table 2. The non-priority pollutant hazardous acid compounds, 2-methylphenol and 4-methylphenol, and the base neutral compound bis(2-chloroethyl) ether, were detected in monitoring well C2. Isophorone was found at significant concentrations in wells C5 and C6. Well C2, the duplicate sample of C2, and the surface water sample, indicated the presence of the pesticide 4,4-DDD. Additional acid and base neutral fraction compounds were detected at non-quantifiable trace concentrations.

Two of the volatile compounds, acetone and methylene chloride, may be partially attributed to laboratory contamination, but their high concentrations are indicative of actual water contamination, not laboratory contaminations. The list of volatile fraction chemicals in Tables 3 and 4 are generally halogenated and non-halogenated solvents. Wells C5 and C6 have the greatest volatile fraction concentrations. Wells C1 and C2 are less contaminated, and wells C3 and C4 are the least contaminated.

The tentatively identified compounds and their analyses are given in Table 4. The concentrations listed are those with a computer fit greater than or equal to 90%. Monitoring well C6 has the greatest number of tentatively identified compounds. The sediment 1 (SED 1) sample reported large quantities of cyclohexane methyl, cyclohexane 1,1,3-trimethyl, 3-methyl hexane and pentane, 2,3-dimethyl.

The results of the inorganic analysis of the sediment, surface water, and monitoring well samples are presented in Table 5. The concentrations of aluminum, chromium, cobalt, copper, iron, lead, manganese, and zinc were exceptionally high and cannot be attributed to background conditions.

SECTION 6 - DISCUSSION

Possible groundwater contamination at Conservation Chemical is more of an eminent threat than surface water contamination. The surface water movement on-site is northward, therefore, the Grand Calumet River is protected from direct contamination. The groundwater, however, is directly susceptible to contamination due to its high water table and permeable sandy soils. The groundwater flow at the site is generally to the south-southwest towards the Grand Calumet as seen in Plate 1. A more accurate groundwater flow pattern could be generated with additional wells. A general hydraulic gradient can be calculated for the groundwater flow from the available wells. The hydraulic gradient (i) is equal to the change in the water level between two wells (dh) divided by the horizontal distance between the two wells (dl) or $i = dh/dl$. The general gradient for this site is approximately 0.003.

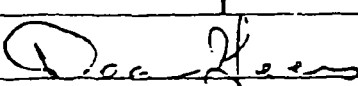
Well nests C1 and C2, and C5 and C6 indicate the presence of a head difference between the shallow and deep well at each location, which would indicate that downward contamination may occur. The presence of oil-like material at depth substantiates this fact.

As the sample analyses indicate, the groundwater at both shallow and deep levels is contaminated. Nine of the 14 elements analyzed as constituents of the U.S. EPA Drinking Water Standards exceeded those standards. The Conservation Chemical Company handles organics, oils, solvents, and various acids. The volatile fraction chemicals (Tables 3 and 4) are mainly solvents being associated with such uses as solvent recovery, petroleum refining, and organic chemical manufacturing. Because of their varied and irregular incoming materials and processes, a wide range of materials at varying quantities pass through Conservation Chemical. The sandy soils are very

A SPC INSPECTION FIELD SHEET

(To be completed if SPC Regulation is applicable to Facility - see 40CFR Part 112.1.)

INSTRUCT
ON REVER-

1. NAME OF FACILITY Conservation Chemical Co.		10. TYPE OF FACILITY Chemical Manufact.
12. FACILITY LOCATION 6500 W. Industrial Hwy.		11. TELEPHONE NUMBER Area Code (219) 949-8229
13. NAME OF OWNER AND/OR OPERATOR RESPONSIBLE FOR FACILITY Norman Hjersted		12. MAILING ADDRESS P.O. Box 6066 Garv, IN 46406
14. TYPES OF OIL STORED AND CAPACITY OF ABOVEGROUND AND BURIED STORAGE. See Attached List		
15. IS A CERTIFIED SPC PLAN AVAILABLE FOR INSPECTION? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		16. DATE OF INSPECTION 5-10-84
17. NAME AND REGISTRATION NUMBER OF CERTIFYING ENGINEER <input type="checkbox"/> NOT AVAILABLE		18. DATE SPC PLAN WAS CERTIFIED <input checked="" type="checkbox"/> NOT AVAILABLE
19. IS SPC PLAN FULLY IMPLEMENTED? (Are the items called for in the Plan in the interest of spill prevention actually being followed - if otherwise <input checked="" type="checkbox"/> NOT APPLICABLE		
20. NAME OF WATER BODY THAT POTENTIAL SPILL COULD ENTER, OR IF UNNAMED TRIBUTARY, THEN FIRST NAMED WATERED DOWNSTREAM (if known) Little Calumet River		
21. COMMENTS (Include comments by owner/operator - write on back or attach extra sheets if needed) History of Site: 1967 was purchased by N. Hjersted. 1967-1975 Ferric Chloride Production. 1975 Ceased production became a hazardous waste terminal. 1980 Regulations forced them to stop transport of hazardous wastes. 1980 - Present - Redesigned plant and restarted pickle liquor operation - producing ferric chloride. Present Operation uses pickle liquor, iron, water and chloride to produce ferric chloride. Ferric chloride used in water treatment.		
22. SPC NO.	23. CASE NO.	24. NPDES NO. <input type="checkbox"/> NOT AVAILABLE
25. INSPECTOR (SIGN) 		26. DATE 5/11/84
27. INSPECTOR (PRINT) Dean Geers		

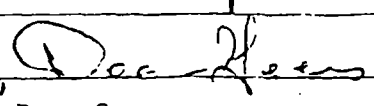
1 COMMENTS

- Only tanks that are locked are the solvent tanks. Mr. Poisel has just purchased locks for remaining tanks.
- Dike around tank #22 is in poor shape - one spot near back corner eroded away to about 1ft.
 - a pipe goes through dike in back corner (NW), is bent up about 2ft. inside of dike.
 - gauge on tank is broken - levels were checked last year by using metered tape.
- Basin (diked area) around tank #19 completely filled with waste water from production.
 - overflow from this area goes down to tank #22.
 - overflow can also go across R.R. tracks to another basin prior to swamp.
 - a lot of oil sludge material floating on surface of water and washed up along edges.
 - Next to this basin area was an area where a tar like oil is oozing out of the ground.
 - According to Mr. Poisel there are several places on the property where oil oozes out of the ground when the temperature rises. When digging down there appears to be about a 1-2 inch thick layer of oil 4-5 ft down.
- Pie Shaped Basin - is about 10 ft. deep - was used as an area to pump neutralized sludges.
 - the neutralized sludges are believed to overlies petroleum sludges.
 - when borings were taken of this area an oil slick was observed within 4 ft. of surface.
- Old separator pit - (concrete pit) is full of water - next to tank #20. This pit will eventually be used as part secondary containment for tank #20 and 3 other solvent tanks. Presently no containment for these tanks.
- Tub (DU-1) with about 2000 G of oil setting near cyanide tank farm - no diking around any tanks on the tub.
- About 150 drums setting on pallets labeled as hazardous wastes.
 - 32 contain soils from solvent spill.
 - Others contain
 - Lapping Oil
 - Copper salt material
 - Solidified Resins
- Tank #16 used to neutralize acids.
- Septic system empties into a catch basin between drum storage area and cyanide tank farm.
 - this basin has a pump attached at top.
 - water was recently discharged across ground from this basin.

A. SPCC INSPECTION FIELD SHEET

(To be completed if SPCC Regulation is applicable to Facility - see 40CFR Part 112.1.)

INSTRUCTIONS
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1F. MAILING ADDRESS P.O. Box 6066 Gary, IN 46406		
1G. TYPES OF OIL STORED AND CAPACITY OF ABOVEGROUND AND BURIED STORAGE. See Attached List		
4. IS A CERTIFIED SPCC PLAN AVAILABLE FOR INSPECTION? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		5. DATE OF INSPECTION 5-10-84
6. NAME AND REGISTRATION NUMBER OF CERTIFYING ENGINEER <input type="checkbox"/> NOT AVAILABLE		7. DATE SPCC PLAN WAS CERTIFIED <input checked="" type="checkbox"/> NOT AVAILABLE
8. IS SPCC PLAN FULLY IMPLEMENTED? (Are the items called for in the Plan in the interest of spill prevention actually being done - if checkable?) <input checked="" type="checkbox"/> NOT APPLICABLE		
9. NAME OF WATER BODY THAT POTENTIAL SPILL COULD ENTER, OR IF UNNAMED TRIBUTARY, THEN FIRST NAMED WATER BODY DOWNSTREAM (if known) Little Calumet River		
10. COMMENTS (Include comments by owner/operator - write on back or attach as two sheets if needed) History of Site: 1967 was purchased by N. Hjersted. 1967-1975 Ferric Chloride Production. 1975 Ceased production became a hazardous waste terminal. 1980 Regulations forced them to stop transport of hazardous wastes. 1980 - Present - Redesigned plant and restarted pickle liquor operation - producing ferric chloride. Present Operation uses pickle liquor, iron, water and chloride to produce ferric chloride. Ferric chloride used in water treatment.		
11A. SPCC NO.	11B. CASE NO.	11C. NPDES NO. <input type="checkbox"/> NOT AVAILABLE
12A. INSPECTOR (SIGN) 		12B. DATE 5/11/84
12C. INSPECTOR (PRINT) Dean Geers		

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 - water was recently discharged across ground from this basin.

TABLE 3: SUMMARY OF THE ORGANIC RESULTS FROM THE ANALYSIS OF THE VOLATILE FRACTION IN SEDIMENT (SED),
SURFACE WATER (SW), AND MONITORING WELL (C) SAMPLES TAKEN AT CONSERVATION CHEMICAL, GARY, INDIANA

	C1	C2	C2 Dup	C3	C4	C5	C6	SW-1	SED1	SED2	Blank
acetone	930	120	400	130	-	6800	30000	-	B	15000C	73
benzene	25K	430	600	-	-	-	950	-	375K	1463K	-
branoform	-	-	-	-	-	-	-	-	750K	2925K	-
2-butanone	140	-	110	-	-	2400	4400	-	B	B	-
carbon disulfide	-	-	-	-	-	-	13	-	-	-	-
chlorobenzene	-	-	-	-	-	-	-	-	-	3100	-
chloroethane	-	-	57	-	-	-	-	-	-	-	-
chloroform	-	-	-	-	-	-	210	-	375K	2100	-
1,1-dichloroethane	-	310	440	-	8	1800	250	-	-	-	-
1,2-dichloroethane	66	19	23	-	-	880	280	-	1100	6700	-
1,1-dichloroethene	-	-	25K	-	-	-	50	-	-	-	-
ethylbenzene	-	-	-	-	-	-	250	-	1200C	10000C	-
2-hexanone	-	-	-	-	-	-	54	-	-	-	-
4-methyl-2-pentanone	37	-	43	-	-	4800	2200	-	-	-	-
methylene chloride	4800	75C	20C	12C	B	4800	3600	5K	B	7700C	5K
tetrachloroethene	-	-	-	5K	-	-	-	-	950	3300	5K
toluene	-	-	25K	-	-	950	350	-	375K	1800C	5K
total xylenes	-	50	170	6	-	500K	420	-	B	5400C	-
trans-1,2-dichloroethene	-	34	37	-	-	-	45	-	-	-	-
1,1,1-trichloroethane	-	130	190	-	-	6700	1900	-	-	-	5K
1,1,2-trichloroethane	-	-	-	-	-	2200	500	-	620	2800	-
trichloroethene	-	140	190	-	-	13000	2100	-	375K	-	8

Note: Water samples reported in ug/l, parts per billion or ppb.
Sediment samples reported in ug/g, parts per million or ppm.
B = Amount in blank is greater than 1/2 the amount detected.
C = Amount has been corrected for the amount in the blank.
K = Compound is present, but below the listed detection limit.

TABLE 4: SUMMARY OF THE ORGANIC RESULTS FOR TENTATIVELY IDENTIFIED COMPOUNDS IN SEDIMENT (SED),
SURFACE WATER (SW), AND MONITORING WELL (C) SAMPLES TAKEN AT CONSERVATION CHEMICAL, GARY, INDIANA

	C1	C2	C2 Dup	C3	C4	C5	C6	SW-1	SED1	SED2	Blank
benzene, 1,3-dimethyl	-	-	-	-	-	-	260	-	-	-	-
benzene, 1,4-dimethyl	-	96	-	-	-	-	-	-	-	-	-
benzene, propyl	-	-	-	-	-	-	42	-	-	-	-
cyclohexane methyl	-	-	-	-	-	-	200	-	26000	-	-
cyclohexane 1,1,3-trimethyl	-	-	-	-	-	-	-	-	47000	-	-
cyclopentane, methyl	-	-	-	-	-	-	110	-	-	-	-
dimethoxy-methane	-	-	-	53	-	-	-	-	-	-	-
1,4-dioxane	70	-	400	16	-	-	-	-	-	-	-
furan, tetrahydro	150	1200	-	72	-	-	-	-	-	-	25
3-heptanol, 3-methyl	-	-	-	-	-	-	54	-	-	-	-
hexane, 3-methyl	-	-	-	-	-	-	-	-	19000	-	-
1-(2-methoxyethoxy)-butane	-	-	-	-	-	-	-	-	-	-	-
molecular sulfur	-	-	-	-	-	-	-	-	-	-	-
oxybis-methane	-	-	-	330	-	-	-	-	-	-	-
1,1-oxybis/2-methoxy-ethane	-	-	-	-	-	360	670	-	-	-	-
pentane, 2,3-dimethyl	-	-	-	-	-	-	-	-	8400	-	-
1,1,2-trichloro-1,2,2-trifluoro-ethane	-	-	-	12	-	-	68	-	-	-	-
3,5,5-trimethyl-2-cyclohexane	-	-	-	-	-	-	200	-	-	-	-
1,2,4-trithiolane	-	-	-	-	-	-	120	-	-	-	-

Note: Sediment samples reported in ug/g, parts per million or ppm.

Water samples reported in ug/l, parts per billion or ppb.

Computer FIT of the tentatively identified compound was equal to or greater than 90%.

TABLE 5: RESULTS FROM THE INORGANIC ANALYSIS OF SEDIMENT (SED), SURFACE WATER (SW), AND MONITORING WELL (C) SAMPLES TAKEN AT CONSERVATION CHEMICAL, GARY, INDIANA

	C1	C2	Dup C2	C3	C4	C5	C6	SW-1	SED1	SED2	Blank
aluminum	66200	72600	65400	2600	13200	26400	24900	730	3500	310	ND
antimony	1730	22	34	ND	ND	47	130	ND	6.95	ND	ND
arsenic	1490	220	250	40s	66	140	340	ND	42	31	ND
barium	360	920	970	140	120	660	ND	250	48	ND	ND
beryllium	20	6	5	ND	5	ND	7	ND	0.3	ND	5
boron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cadmium	140	81	66	19s	11	5.4	110	7.3	13	0.10	ND
chromium	540	3450	3640	27	1310	3280	46000	95	600	6.2	ND
cobalt	3930	200	160	380	90	1390	6520	ND	22	ND	ND
copper	4550	2910	2810	1160	7020	340	1320	99	640	49	ND
cyanide	ND	ND	0.465	ND	ND	ND	0.02	ND	7.92	ND	ND
iron	168000	85500	73400	8220	42200	296000	956000	4480	96700	10600	ND
lead	230	8640	7050	159	306	309	14700	280	1240	470	ND
manganese	7460	5150	6750	1120	1860	5630	91500	85	860	47	ND
mercury	ND	0.4	ND	ND	ND	ND	ND	ND	0.66	ND	ND
nickel	8580	510	500	330	210	4380	21900	ND	190	37	ND
selenium	410	5	12	ND	ND	5	24	ND	0.7	0.4	ND
silver	45	14	ND	ND	ND	16	35	ND	1.4	ND	ND
thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tin	1410C	69C	40C	NDB	NDB	NDB	200C	NDB	15C	NDB	NDB
vanadium	490	580	ND	ND	ND	ND	ND	ND	31	13	ND
zinc	36200C	6120C	5460C	10940	3050C	116200C	27850C	97C	540C	24C	NDB

Note: Sediment samples reported in ug/kg, parts per billion or ppb.

Water samples reported in ug/l, parts per billion or ppb.

C = Corrected value

NA = Not applicable

ND = Not detected

NDB = Not detected due to blank contamination

permeable, therefore, a high potential for groundwater contamination exists. Thus, the contaminants found in the groundwater, surface water, and sediment samples may be linked to Conservation Chemical and/or past Berry Oil processes.

The primary water supply source for the area surrounding Conservation Chemical is Lake Michigan. Although the groundwater is not a primary drinking water source, 59 water supply wells were identified within a 3-mile radius of the site (Lunsford, 1984). The relative close proximity of the area wells to Conservation Chemical in combination with the highly permeable soils presents a real, potential threat to the groundwater supply.

SECTION 7 - CONCLUSIONS

1. The Grand Calumet River is not directly susceptible to contamination from Conservation Chemical, since surface water drainage is northward away from the river. The shallow groundwater table with its permeable soils has, however, been contaminated as indicated by the chemical analyses results.
2. The downgradient wells, C5 and C6, evidenced the greatest contamination, especially volatile organics. Well C6 evidenced the greatest number of tentatively identified compounds. Eleven compounds were common to both C5 and C6 in high concentrations. Included in these eleven compounds are acetone, 2-butanone (methyl ethyl ketone), 1,1-dichloroethane, 1,2-dichloroethane, 4-methyl-2-pentanone, methylene chloride, toluene, total xylenes, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethene.
3. The non-priority pollutant acid compounds, 2-methylphenol (o-cresol) and 4-methylphenol (m-cresol), were detected only in well C2. Both o-cresol and m-cresol are found in petroleum, therefore, their source in this shallow well may be associated with past Berry Oil Company's activities and/or Conservation Chemical activities. The solvent bis(2-chloroethyl) ether was also found in well C2. Isophorone, a solvent, was detected at a greater concentration in the deep well C5 than in the shallow well, C6.
4. Both the shallow well C2 and the duplicate for C2 indicated the pesticide 4,4-DDD. This pesticide was also found in the surface water sample upgradient from well C2.

5. From the constituents which comprise the U.S. EPA Drinking Water Standards, arsenic, cadmium, chromium, copper, iron, lead, manganese, selenium, and zinc exceeded the recommended concentration limits in the well samples.
6. The surface water sample (SW-1) evidenced concentrations greater than drinking water standards for cadmium, iron, lead, and manganese. Also, aluminum concentrations of 730 ppb and 21.4 ppb of 4,4-DDD were detected.
7. The sediment 1 (SED 1) sample showed high concentrations of chromium, iron, lead, and manganese. High concentrations of iron and lead were also detected in the sediment 2 (SED 2) sample. Overall, the SED 2 sample was highest in the volatile fraction concentrations. This is possibly due to SED 2's downgradient location near the "pie-basin." The tentatively identified compounds cyclohexane methyl, cyclohexane 1,1,3-trimethyl, 3-methylhexane, and 2,3-dimethyl pentane were found in very high concentrations in the SED 1 sample.

REFERENCES

Havens and Emerson Incorporated Consulting Engineers. August 1983.

"Gary Municipal Airport Authority, Gary, Indiana, Hazardous Waste Assessment at Conservation Chemical Company." Final Report.

Lunsford, Mark. 1984. "Population Survey of Groundwater Usage in the Vicinity of Midco II, Gary, Indiana." Ecology and Environment Report.

United States Department of Agriculture, Soil Conservation Service. July 1972. "Soil Survey of Lake County, Indiana."

APPENDIX A

State IndianaBoring No. C1Site Conservation ChemicalPage 2 of 2

Elev.	Depth	Description	Blow Count	Sample No.	Remarks	Well Const.
	22	Black oily sand				
	24	Tan, well sorted, fine grained sand				
	26	Tan, well sorted, fine grained sand				
	28	Tan, fine to medium grain sand				
	30	Tan, fine to medium grain sand				
	32	Tan, fine to medium grain sand				
	34	Tan, fine to medium grain sand				
	36	Tan, fine to medium grain sand				
	38	Tan, fine to medium grain sand				
	40	Tan, fine to medium grain sand				
	42	Gray Clayey Till - End of Boring				
		Well specifications: <ul style="list-style-type: none">- 5', 2" I.D. stainless steel well screen- 4 - 10.0' galvanized pipe, 2" I.D.- Grouted with cement- Secured with casing protector and lock.- Well screen from 37 to 42 feet				

DRILLING LOG

Page 1 of 1

State Indiana

Start Date October 7, 1983

Site Conservation Chemical

Completion Date October 7, 1983

Boring No. C2

Ground El. 97.56

Drilling Firm Canonie

Groundwater El.
at completion -

Type of Drill -

after 11 days 91.02

Driller Norm

Total Depth of Boring 12.0 feet

Geologist Ron St. John

Elev.	Depth	Description	Blow Count	Sample No.	Remarks	Well Const.
97.44		Ground Surface				
	4	<u>Sand</u> - augered with no samples			Water/oil mixture at 7 feet	
	8					
	12	End of Boring				
	14	Well specifications:				
	16	- 5', 2" I.D. stainless steel well screen				
	18	- 9' galvanized pipe 2" I.D.				
	20	- Grouted with cement				
	22	- Secured with casing protector and lock				
	24	- Well screen from 7 to 12 feet				
	26					

DRILLING LOG

Page 1 of 1State IndianaStart Date October 10, 1983Site Conservation ChemicalCompletion Date October 10, 1983Boring No. C3Ground El. 98.05Drilling Firm Canonie

Groundwater El.

at completion -Type of Drill -after 8 days 91.27Driller NormTotal Depth of Boring 12.0 feetGeologist Ron St. John

Elev.	Depth	Description	Blow Count	Sample No.	Remarks	Well Const.
97.44		Ground Surface				
	20	See log for C1				
	40	End of Boring				
		Well specifications: <ul style="list-style-type: none">- 5', 2" I.D. stainless steel well screen- 3 - 10.0' galvanized pipe, 2" I.D.- Grouted with cement- Secured with casing protector and lock- Well screen from 26 to 31 feet				

DRILLING LOG

Page 1 of 1State IndianaStart Date October 11, 1983Site Conservation ChemicalCompletion Date October 11, 1983Boring No. C4Ground El. 97.84Drilling Firm CanonieGroundwater El.
at completion -Type of Drill -after 7 days 91.27Driller NormTotal Depth of Boring 15.0 feetGeologist Ron St. John

Elev.	Depth	Description	Blow Count	Sample No.	Remarks	Well Const.
97.44		Ground Surface				
	5 10 15	End of Boring Well specifications: - Well set at 15.0 feet - 5'2" I.D. stainless steel well screen - 9' galvanized pipe, 2" I.D. - Grouted with cement - Secured with casing protector and lock. - Well screen from 8.5 to 13.5 feet				

DRILLING LOG

Page 1 of 1State IndianaStart Date October 11, 1983Site Conservation ChemicalCompletion Date October 11, 1983Boring No. C5Ground El. 97.56Drilling Firm CanonieGroundwater El.
at completion -Type of Drill -after 7 days 89.90Driller NormTotal Depth of Boring 25.0 feetGeologist Ron St. John

Elev.	Depth	Description	Blow Count	Sample No.	Remarks	Well Const.
97.44		Ground Surface				
	12	Sand			High concentrations of oil like material at 25'.	
	25	End of Boring				
		Well Specifications: - 5'2" I.D. stainless steel well screen - 2 - 10.0' galvanized pipe, 2" I.D. - Grouted with cement - Secured with casing protector and lock. - Well screen from 17 to 22 feet				

DRILLING LOG

Page 1 of 1State IndianaStart Date October 11, 1983Site Conservation ChemicalCompletion Date October 11, 1983Boring No. C6Ground El. 97.39Drilling Firm CanonieGroundwater El.
at completion -Type of Drill -after 7 days 89.84Driller NormTotal Depth of Boring 15.0 feetGeologist Ron St. John

Elev.	Depth	Description	Blow Count	Sample No.	Remarks	Well Const.
97.44		Ground Surface				
	8	Sand				
		End of Boring				
	16	Well Specifications: <ul style="list-style-type: none">- 5'2" I.D. stainless steel well screen- 9' galvanized pipe, 2" I.D.- Grouted with cement- Secured with casing protector and lock.- Well screen from 6.5 to 11.5'				

TABLE 2: SUMMARY OF ORGANIC RESULTS FROM THE ANALYSES OF THE ACID, BASE-NEUTRAL AND PESTICIDE FRACTIONS IN SEDIMENT (SED), SURFACE WATER (SW), AND MONITORING WELL (C) SAMPLE TAKEN AT CONSERVATION CHEMICAL, GARY, INDIANA

	C1	C2	C2 Dup	C3	C4	C5	C6	SW-1	SED1	SED2	Blank
ACID COMPOUNDS											
2,4-dimethylphenol	-	-	-	-	-	10K	-	-	-	-	-
phenol	-	10K	-	-	-	10K	-	-	-	-	-
NON-PRIORITY POLLUTANT HAZARDOUS SUBSTANCES											
2-methylphenol	-	16	-	-	-	-	-	-	-	-	-
4-methylphenol	-	104	-	-	-	-	-	-	-	-	-
BASE NEUTRAL COMPOUNDS											
bis(2-chloroethyl)ether	-	45	-	-	-	10K	10K	-	-	-	-
diethylphthalate	-	-	-	-	-	10K	-	-	-	-	-
isophorone	-	-	-	-	-	3422	346	-	-	-	-
naphthalene	-	10K	-	-	-	-	10K	-	10K	10K	-
n-nitrosodi-n-propylamine	-	-	-	-	-	-	-	-	10K	10K	-
NON-PRIORITY POLLUTANT HAZARDOUS SUBSTANCES											
benzyl alcohol	-	-	-	-	-	-	20K	-	-	-	-
2-methylnaphthalene	-	20K	-	-	-	-	20K	-	20K	20K	-
PESTICIDES											
4,4-DDD	-	11.9	15.9	-	-	-	-	21.4	-	-	-

Note: Sediment samples reported in ug/g, parts per million or ppm.
Water samples reported in ug/l, parts per billion or ppb.
K = Compound is present, but below the listed detection limit.

SUBURBAN LABORATORIES INC.
ANALYSIS FOR ORGANIC CHEMICAL COMPOUNDS
BY
GAS CHROMATOGRAPHY / MASS SPECTROMETRY

.....6-3356

MS FILE NO. 11/27/85.D3

IDENT.....PEI

SAMPLE: TANK 1S 11/27/85

ANALYSIS FOR VOLATILE ORGANIC COMPOUNDS BY GC/MS REPORT
METHOD : 8240 PURGE AND TRAP

COMPOUND	MDL ng/g	CAS NUMBER	SAMPLE CONC. ng/g
+4-Bromofluorobenzene.....	1.00		400.00
Acrolein.....	*	107-02-8..	*
Acrylonitrile.....	*	107-13-1..	*
Benzene.....	1.00	71-43-2..	945876.5
Bromodichloromethane.....	1.00	75-27-4..	9622.33
Bromoform.....	1.00	75-25-2..	BDL
Bromomethane.....	1.00	74-83-9..	BDL
Carbon tetrachloride.....	1.00	56-23-5..	46733800.
Chlorobenzene.....	1.00	108-90-7..	BDL
Chloroethane.....	1.00	75-00-3..	BDL
2-Chloroethylvinyl ether.....	1.00	110-75-8..	BDL
Chloroform.....	1.00	67-66-3..	295195.7
Chloromethane.....	1.00	74-87-3..	BDL
Dibromochloromethane.....	1.00	124-48-1..	BDL
1,3-Dichlorobenzene.....	1.00	95-50-1..	BDL
1,3-Dichlorobenzene.....	1.00	541-73-1..	2027852.
1,4-Dichlorobenzene.....	1.00	106-46-7..	BDL
1,1-Dichloroethane.....	1.00	75-34-3..	798586.7
1,2-Dichloroethane.....	1.00	107-06-2..	BDL
1,1-Dichloroethene.....	1.00	75-35-4..	47484880.
trans-1,2-Dichloroethene.....	1.00	156-60-5..	20676.15
1,2-Dichloropropane.....	1.00	78-87-5..	BDL
cis-1,3-Dichloropropene.....	1.00	10061-01-5..	BDL
trans-1,3-Dichloropropene.....	1.00	10061-02-6..	BDL
Ethyl benzene.....	1.00	100-41-4..	45685584.
Methylene chloride.....	1.00	75-09-2..	67444336.
1,1,2,2-Tetrachloroethane.....	1.00	79-34-5..	BDL
Tetrachloroethene.....	1.00	127-18-4..	26580540.
Toluene.....	1.00	108-88-3..	BDL
1,1,1-Trichloroethane.....	1.00	71-55-6..	***** 40,234,268
1,1,2-Trichloroethane.....	1.00	79-00-5..	8224189.
Trichloroethene.....	1.00	79-01-5..	***** 10,900,177
Vinyl chloride.....	1.00	75-01-4..	BDL

ANALYSIS SCREENED - INTERNAL STANDARD
- MINIMUM DETECTION LIMIT - BDL - BELOW DETECTION LIMIT
***** ORG. R. LHM. QUANTIFICATION LIMITS OF DETECTION

SUBURBAN LABORATORIES, Inc.

4140 LITT DRIVE

HILLSDALE, ILLINOIS 60162 - 1183

EARL I. ROSENBERG
President

April 15, 1986

H.R. THOMAS, JR.
DirectorPEI Associates, Inc.
11499 Chester Road
Cincinnati, Ohio 45246

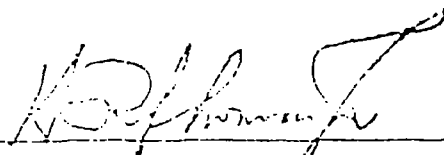
Attention: Mr. Paul Kefauver

Samples Received: 12/26/85Source: S/L #3356A - ~~Tank 1S~~, 11/27/85
S/L #3357A - Tank 2S, 11/27/85

		#3356A	<u>#3357A</u>
Water	(%)	0.2	0.6
Flash Point (CC)	(°F)	*	32°F
BTU/lb.		11232	10617

* Non-Flammable bp 175°F

ANALYSIS CERTIFIED BY:



, Director (HRT/ak)

DRILLING LOG

Page 1 of 2State IndianaStart Date October 7, 1983Site Conservation ChemicalCompletion Date October 7, 1983Boring No. C1Ground El. 97.49 feetDrilling Firm CanonieGroundwater El.
at completion -Type of Drill -after 11 days 90.43Driller NormTotal Depth of Boring 42.0 feetGeologist Ron St. John

Elev.	Depth	Description	Blow Count	Sample No.	Remarks	Well Const.
97.44		Ground Surface				
	2	Augered from 0-24 feet				
	4					
	6					
	8					
	10					
	12					
	14					
	16					
	18					
	20					

0300004

EPA Region 5 Records Ctr.



224903

SITE ASSESSMENT

FOR

CONSERVATION CHEMICAL COMPANY
GARY, INDIANA

Prepared For:

U.S. Environmental Protection Agency
Region V
230 S. Dearborn Street
Chicago, Illinois

CONTRACT NO. 68-95-0017

TAT-05-F-00541

TDD# 5-8502-06

Prepared by:

WESTON-SPER
Technical Assistance Team
Region V

February 1985



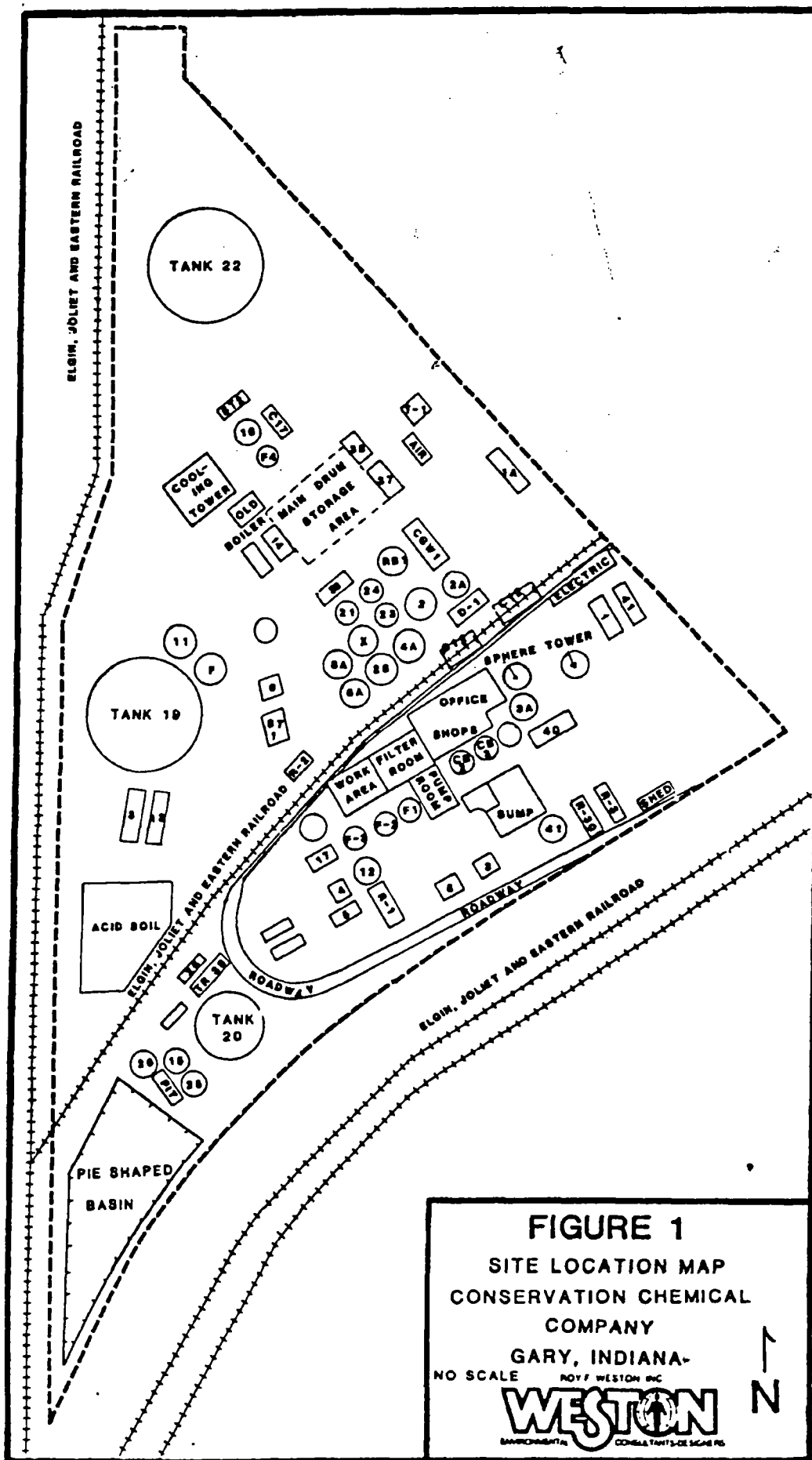
1.0 INTRODUCTION

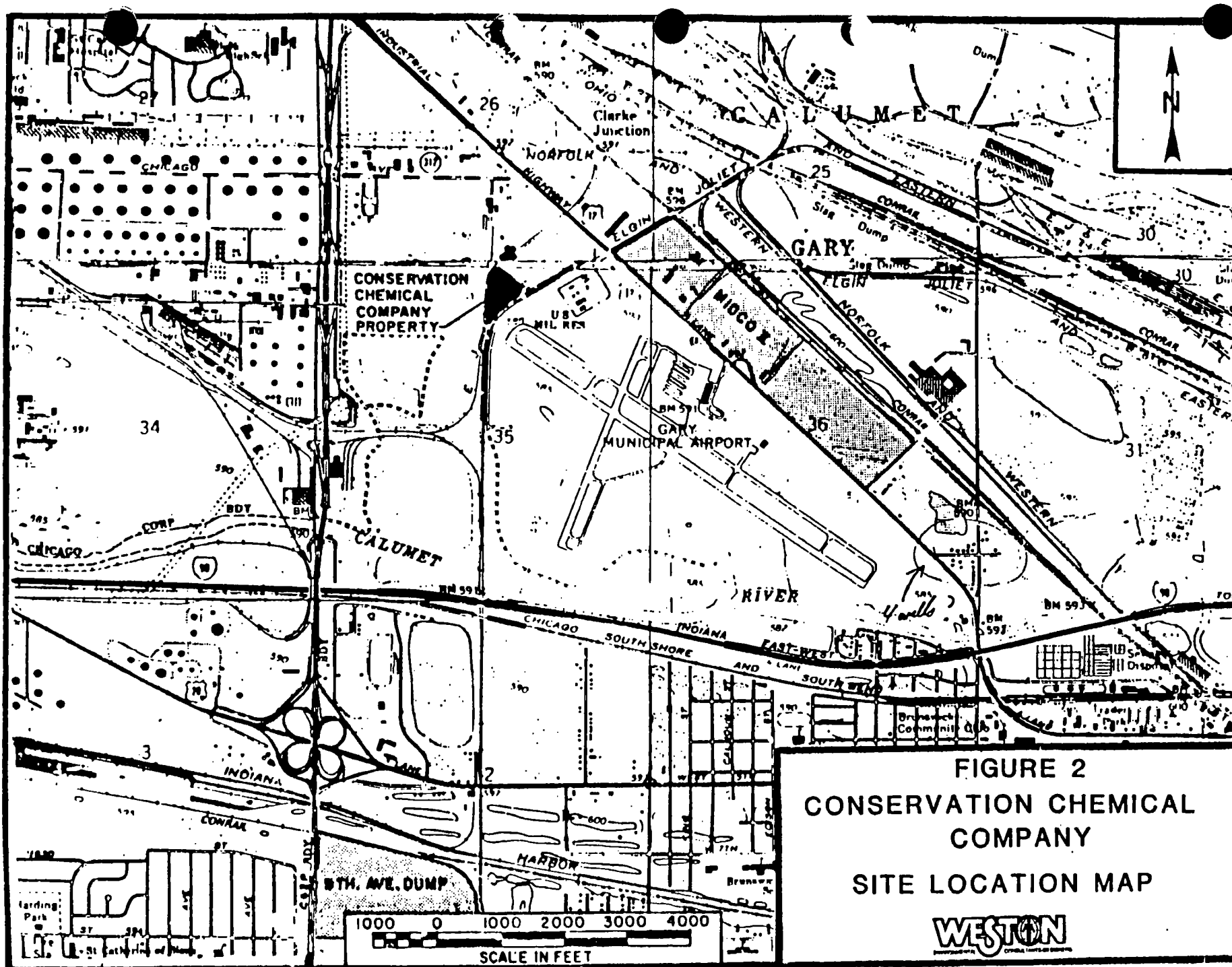
On February 8, 1985, per request of the U.S. Environmental Protection Agency (U.S. EPA), the Technical Assistance Team (TAT) conducted an inspection of Conservation Chemical Company in Gary, Indiana. The facility encompasses a triangular four acre parcel of land at 6500 Industrial Highway. The site is bounded on two sides by the Elgin, Joliet, and Eastern Railroad right-of-ways and on the third side by a vacated industrial lot (Figure 1). The Gary Municipal Airport lies just to the southeast of the facility (Figure 2). The facility reportedly had on its premises deteriorated and leaking tanks that contain cyanide waste sludge. The inspection undertaken by the TAT was to determine whether an emergency situation existed at the facility based on imminent hazards to human health and the environment.

2.0 SITE HISTORY

Background information on the site was provided by two technical reports. The first report was generated by Havens and Emerson for the Gary Municipal Airport Authority in October of 1983 and the second report was prepared by Ecology & Environment for the U.S. EPA in May of 1984. The Havens and Emerson report was initiated by the airport authority to determine the cost and feasibility of cleaning up the site relative to the proposed acquisition by the airport for an expansion. The Ecology & Environment report was prompted by the Remedial Response Branch (U.S. EPA) for purposes of ranking the site for the National Priority List. Both reports addressed the types of contaminants present on the site and the potential for ground water contamination. Monitoring wells have been installed at the site by both contractors.

Conservation Chemical began its operation at the present location in April of 1967. Prior to 1967, the Conservation Chemical site was owned and operated by the Berry Oil Company, a petroleum refinery. Many of the drums and tanks that were left by the refinery have been used by Conservation Chemical. Other remnants still remaining on the site from the original petroleum refinery include the office/shop building, two concrete-lined pits, a distillation column, and a forced-draft cooling tower. Also remaining from the refinery is a pie-shaped basin at the southern apex of the site that was believed to be part of the wastewater treatment and disposal system for the refinery. According to Mr. Norman Hjersted, owner of Conservation Chemical, a majority of the waste oils remaining on site were left from the refinery operation. The Conservation Chemical site was purchased by Mr. Norman Hjersted in April 1967. From 1967 to 1975, the facility was used in the production of ferric chloride. In 1975,







Conservation Chemical ceased production of ferric chloride and became a hazardous waste terminal and treatment facility. Neutralization was the primary form of treatment utilized. The cyanide solutions that currently exist on site were brought to the site while it operated as a hazardous waste facility. Regulations in 1980 forced Conservation Chemical to stop the transport of hazardous wastes. The plant was re-designed at this time again for the production of ferric chloride.

Conservation Chemical is presently involved in the manufacturing of iron salt coagulants, primarily ferric chloride. The process involves the reaction of ferrous chloride pickling liquor with chlorine and scrap iron. The ferrous chloride pickling liquor is concentrated by thermal evaporation and air oxidized, chlorine is reacted with the ferrous chloride and in the presence of additional chlorine atoms produces ferric chloride. Scrap iron is added to increase the concentration of the ferric chloride and/or to remove the free acidity by conversion to the iron salts.

The waste pickling liquor employed at the site is generated from the steel mill industry in the surrounding area. Pickling lines are used in steel mills to remove scales that form on the metal during the rolling process. The scales have to be eliminated to prevent a lack of uniformity and any irregularities on the metal surface. Continuous picklers will utilize either hydrochloric acid or sulfuric acid. A ferrous chloride waste product results from a pickling process using hydrochloric acid; the scales are dissolved in the acid in the form of ferrous chloride. When the ferrous chloride reaches a concentration of 18% to 20%, the pickling acid is no longer usable and must be discharged. The spent pickling liquor will contain free hydrochloric acid, ferrous chloride and water. Conservation Chemical accepts the spent pickling liquor and converts it to ferric chloride as described above. The product ferric chloride is sold to waste treatment plants as a chemical precipitant for phosphorous removal in activated sludge.

3.0 GEOLOGY AND HYDROLOGY

The surface geology in the general area of Conservation Chemical is dominated by a relatively flat topography within the confines of the Calumet lacustrine plain which exhibits dunes and beach ridges. Approximately 150 feet of unconsolidated glacial deposits overly the bedrock which consists of closely jointed dolomites and cherty limestone of Middle Silurian age. The top 50 feet of the till deposits are comprised of glaciolacustrine sand and gravel in form of bars, spits, beach ridges and some dunes. These deposits make up the

upper unit of the Atherton Formation. Beneath this upper unit extends a 100 feet thick unit composed of pebbly, sandy, and silty clay till that also exhibits discontinuous seams of sand and gravel.

The near surface soils on the site have been disturbed extensively by various construction activities. A large amount of fill material, such as slag, cinders and dirt, has also been brought to the site. The original soil is classified as the Oakville-Tawas complex which consists of 45% Oakville fine sand, 45% Tawas muck over fine sand, and 10% Maumee loamy fine sand and gently sloping Oakville sand. The hydraulic conductivities of the complex range from 4.4×10^{-4} to 1.4×10^{-3} cm/sec in the muck to greater than 1.4×10^{-2} cm/sec in the fine sand.

As previously mentioned, the topographic relief in the area of the site is very slight. Surface water drainage is in a southwestern direction across the site towards the Grand Calumet River, approximately one mile to the south. During the summer months, ponding occurs extensively throughout the area. Several marshes also exist to the west and southwest of the site.

The direction of ground water flow on the site is difficult to determine. A ground water divide is believed to exist in the general location of the site. Ground water flow moves either northward toward Lake Michigan or southward toward the Grand Calumet River. The water table is situated approximately 12 feet beneath the surface under unconfined conditions. The saturated thickness of the shallow aquifer, the Calumet Aquifer, is approximately 50 feet. Ground water recharge occurs through direct infiltration of precipitation. The underlying clay till unit, which acts as the base to the aquifer, has an average conductivity of 1.4×10^{-7} cm/sec.

4.0 SITE INSPECTION

On February 8, 1985, TAT members Doug Ballotti and Dean Geers accompanied U.S. EPA representative Bill Simes on the site inspection of Conservation Chemical. The TAT and U.S. EPA personnel met with the facility's plant manager, James Poisel prior to conducting the inspection. Mr. Poisel supplied the TAT with an up-to-date inventory of tank contents and drums on site (Tables 1 and 2), in addition to a site map (Figure 2). Level C protection was donned by the TAT and U.S. EPA for the inspection. Mr. Poisel, with no personal protection, accompanied the TAT and U.S. EPA during the inspection and provided information on the various tanks and pits on site.

TABLE 1

TANK INVENTORY OF CONSERVATION CHEMICAL AS OF FEBRUARY 4, 1985¹

Tank Number	Contents	Capacity (gal)	Quantity (gal)
CB-2 and TUB	Ferrous chloride	16,200	8060
CB-3 and TUB	In process	16,200	N/A
3-A	Ferric chloride	21,400	13,603
R-3	Ferrous chloride	10,250	N/A
R-30	Ferrous chloride	7000	6700
12	Ferrous chloride	12,200	10,415
F-1	In process	21,000	21,000
F-2	Ferric chloride	21,000	8348
F-3	Ferrous chloride	14,000	N/A
RR-1	Ferrous chloride	8500	6450
40	Hydrochloric acid	15,500	10,544
41	Hydrochloric acid	15,500	N/A
1	To be used for storage		
17	To be used for storage		
Rail car 82996	Chlorine	N/A	180,000
Rail car 75242	Chlorine	N/A	14,453
Rail car 75423	Ferric chloride	N/A	15,969
R-15	Waste acid	8000	Empty
R-31	Waste acid	8000	Unusable
R-38	Waste acid	2400	N/A
20	Neutral acid sludge	420,000	242,760
5	Silica etch	121,000	3000
2	Solvent	462,000	43,600
D-1	Solvent	120,000	9000
1-S	Solvent	234,000	5780
2-S	Solvent	172,000	161,000
19	Oil and water sludge	842,000	13,992
22	Ashpaltic fuel oil	1,464,685	137,514
F-11	Dirt and solvent spill	6000	5200
Sphere	Cyanide	22,800	7700
Tower	Cyanide	30,000	8500
RR2	Cyanide	10,000	6000
TR38	Cyanide	6500	1500
ST1	Cyanide	20,000	18,000
DB1	Cyanide	120,000	2235
2A	Cyanide	21,400	11,637
4A	Cyanide	21,400	20,900
8A	Cyanide	17,625	17,000
26	Cyanide	14,350	11,115
28	Cyanide	19,100	18,781
23	Cyanide	19,100	11,000
X	Cyanide	19,430	12,953
CY1	Sludge	22,100	1473

¹ Information obtained from dated inventory sheet supplied by Conservation Chemical.

TABLE 2

DRUM AND VARIOUS CONTAINER INVENTORY
CONSERVATION CHEMICAL COMPANY¹

<u>Container Content Description</u>	<u>Quantity</u>
Empty cyanide sludge drums	N/A
Empty plastic container	16
Empty plastic container with tops removed	10
Large oil containers	3
Large empty containers	3
Five gallon paint pails	2
Five-gallon bottles	4
Acid in brown plastic container	1
HF in blue plastic container	1
Paint in 1 gallon and 5 gallon pails	4
Fiberglass crystals/drum	1
Unknown drummed material	2
Iron filings/drum	1
White paste/drum	1
Water (?)/drum	3
Soil, lime, and neutralized nitric sludge/recovery drum	1
Lapping oil/drum	22
Acid (?)/drum	1
Irodite/drum	1
White crystals/drum	5
Green crystals/drum	2
Black and orange material/drum	2
Red material-soil (cobalt?)	N/A
Plastic chrome/drum	N/A
Paint sludge/drum	8
Copper crystals (acid)/drum	19
Lab chemicals/drum	14
Filer aid (?)/drum	1
Solvent contamination soil/drum	24
Overpacked material (?)	19
Tiles/overpack	15
Empty/drum	2
Cyanide-contaminated soil/drum	7
Cyanide (?) -contaminated material/drum	2

¹ Information supplied by Conservation Chemical; total of 154 drums with material and 110 are empty.

The majority of the cyanide sludge waste tanks are located along the north side of the railroad spur directly across from the office/shop building. The spherical tank and distillation tower adjacent to the office-shop building also contained cyanide sludge material. According to Mr. Poisel, these materials are probably not marketable and will have to be disposed. He was not aware of any immediate disposal plans for the sludge. Many of the cyanide tanks inspected by the TAT showed signs of corrosion and appeared in relatively poor condition. None of the cyanide tanks on site appeared to be leaking; however, due to the extreme cold weather conditions, most of the materials in the tanks were believed to be frozen or highly viscous. The TAT noted that many of the manways of the cyanide tanks appeared to have condensate formation along the seam. Mr. Poisel was unsure why this occurred; he contended that the manways were integrally sound. There was no evidence of any leakage around the seams; however, several of the seams had been resealed with fiberglass.

The drum storage area contained approximately 264 drums. According to the facility's inventory sheet, 110 of these are empty. Many of the drums have been overpacked with no identifying marks. Table 2 indicates the number and contents of drums on the site. Three large refinery storage tanks exist at the facility. The first tank inspected was tank #22 which contains a viscous fuel oil that, according to Mr. Poisel, is contaminated with low level concentrations of PCBs. He said the material will eventually be disposed of, but was unaware of any time schedule. The second large refinery tank inspected was tank #19. It contained what is believed to be #6 fuel oil and some type of oily sludge. The tank is in poor condition and has reportedly leaked over the past year. Some dark oil/sludge material was evident around the base of the tank; however, at the time of the inspection, the tank did not appear to be leaking. Adjacent to tank #19 was a small lagoon that accepted run-off from the site and some of the leakage from tank #19. The contents of the lagoon are unknown. However, some of the exposed soils around the lagoon are reddish stained indicating a high iron metal content. This lagoon is also used as an evaporation area for the cooling water of the ferric chloride process. The last refinery tank inspected was tank #20 which contains a neutralized acid sludge. The tank is in poor condition and has had reported leaks in the past. Mr. Poisel indicated that they were in the process of excavating a pit adjacent to the tank as part of the spill contingency.

The pie-shaped basin at the southern apex of the property was covered with snow obscuring its perimeter and the confined materials. Mr. Poisel indicated that Conservation Chemical does not actively dump or dispose of anything in the lagoon.

The basin was originally used as a settling lagoon for the disposal of hazardous waste materials and oil products. The surface of the lagoon is elevated approximately four feet above the office/shop area, apparently to ensure infiltration into the high water table (Havens and Emerson, 1983). The surface impoundment is believed to contain several hundred tons of sludge resulting from lime treatment of spent pickle liquor and several thousand tons of slop oil emulsion solids from petroleum refining. Small gas eruptions have been described as occurring atop the surface of the basin. These eruptions are believed to be gas releases by reactive materials in buried containers upon contact with water (Havens and Emerson, 1983).

Inspection of the tanks directly behind and adjacent to the office/shop building revealed a variety of storage tanks used in the present operation. These tanks contain either ferric chloride and ferrous chloride solutions or hydrochloric acid. Other materials that are stored in close proximity include cyanide sludge and silica etch (acid). Four new tanks are presently empty but are slated to replace several of the deteriorating tanks. Mr. Poisel was uncertain when these tanks would be put into use. The rail car tanks on site contain various amounts of chlorine and ferrous chloride.

5.0 CONCLUSIONS AND RECOMMENDATIONS.

Prior to the initiation of the site inspection, it was decided if any extensive sampling was necessary to determine the hazards on site; the sampling would be conducted during the following week. Upon completion of the site inspection, it was agreed between the TAT and Bill Simes (U.S. EPA) that the sampling effort would be postponed because of that extensive snow cover and extreme cold weather. The majority of the sludge materials were frozen or highly viscous, reducing the potential of spillage or leakage and the extensive snow cover had obscured areas that had sustained spillage. A representative sampling program would have been difficult to conduct under such circumstances.

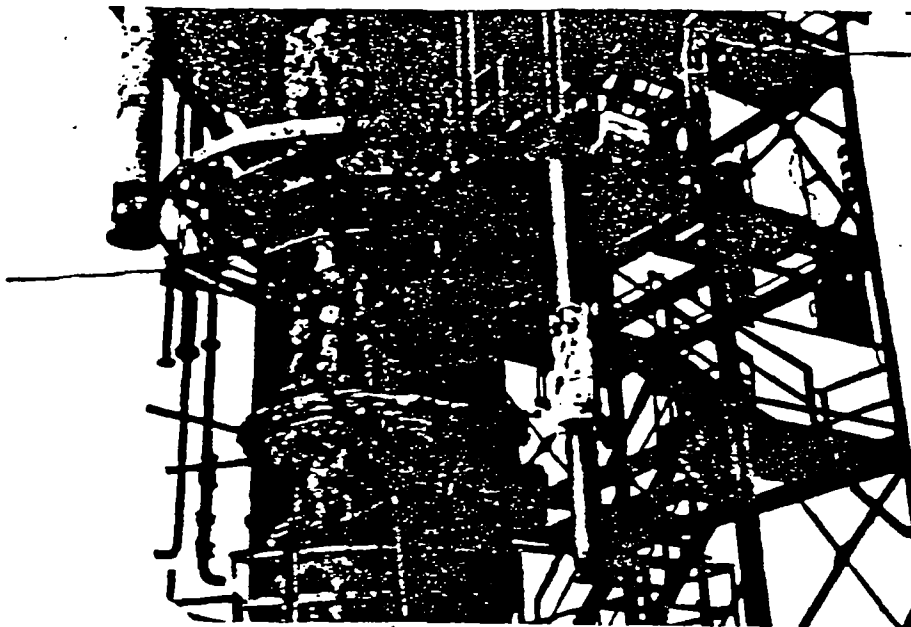
It is strongly recommended that an extensive sampling program be undertaken in the spring when the snow has sufficiently melted and the weather warmed.

It must be stressed that the hazards of the site are severe and that a return inspection should be conducted with high priority in the spring. There exists at least two primary concerns of potential hazards that should be addressed in the follow-up inspection. The amount of cyanide sludge material is estimated at 170,194 gallons; many of the tanks containing this material are in deteriorating condition and are in close



proximity to acid tanks. This intensifies the potential for a cyanide vapor release. This possibility should be thoroughly investigated based on tank integrity and site logistics. The second concern involves the potential for ground water contamination. The surficial geology beneath Conservation Chemical is extremely vulnerable to ground water contamination. The combination of a shallow water table, highly permeable glacial deposits and extensive spillage and leakage on the site poses a severe threat to ground water. Some ground water contamination has already been documented (Ecology & Environment, May 1984). Efforts should be made to determine whether contamination to the Calumet Aquifer presents an imminent hazard to drinking water sources in the area.

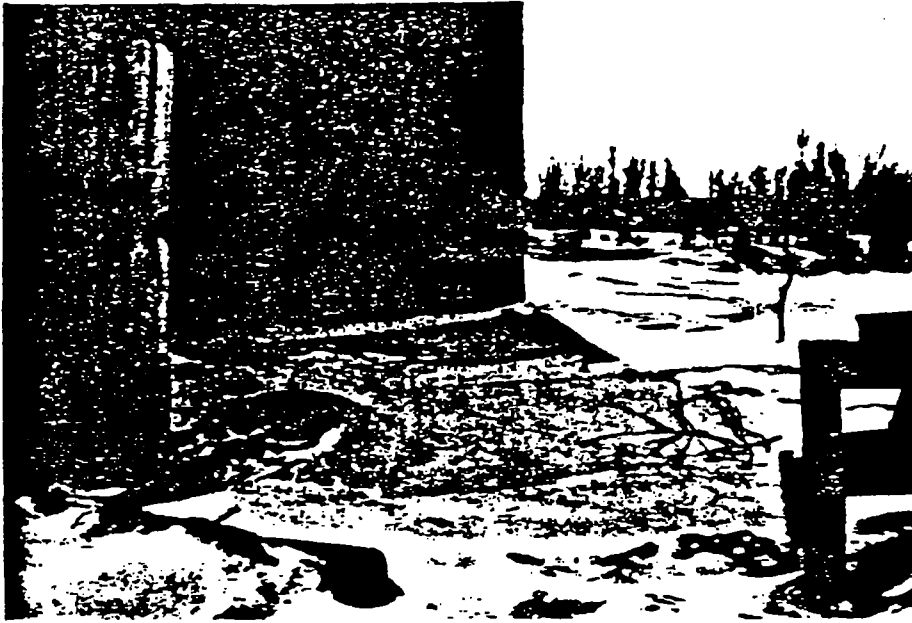
APPENDIX A
PHOTOGRAPHS



Distillation tower containing cyanide sludge.



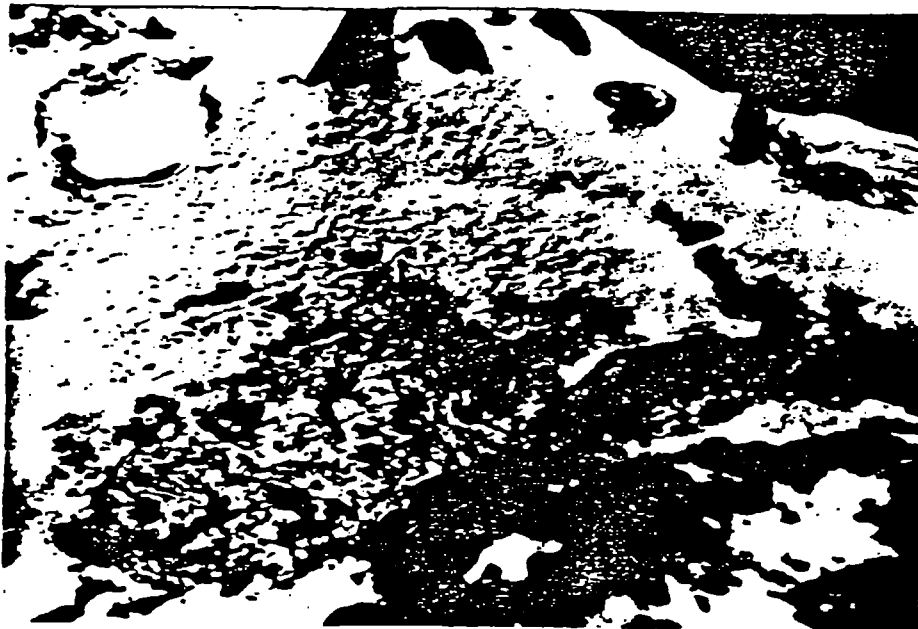
Drum storage area of assorted material.



Tank 19 with process water around it.



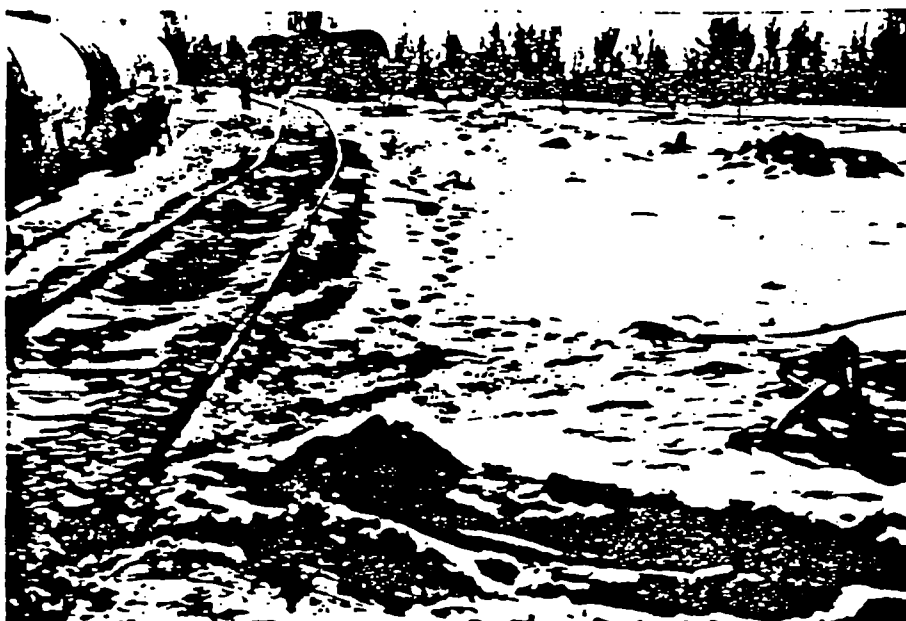
Area where process wastes flow to area around Tank 19.



Oily wastes around base of Tank 19.



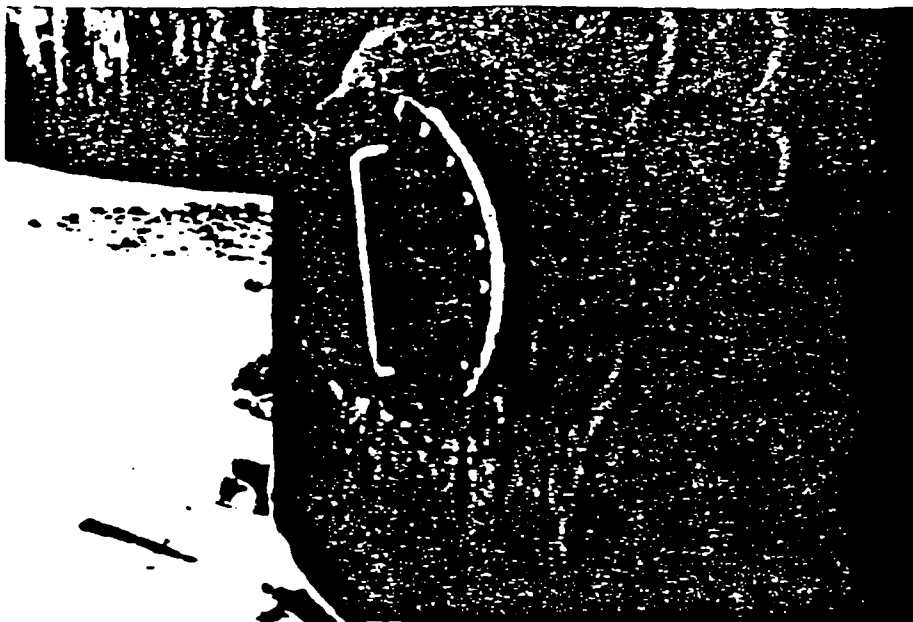
Oily sludge material that has leaked from Tank 19.



Spillage along railroad spur.



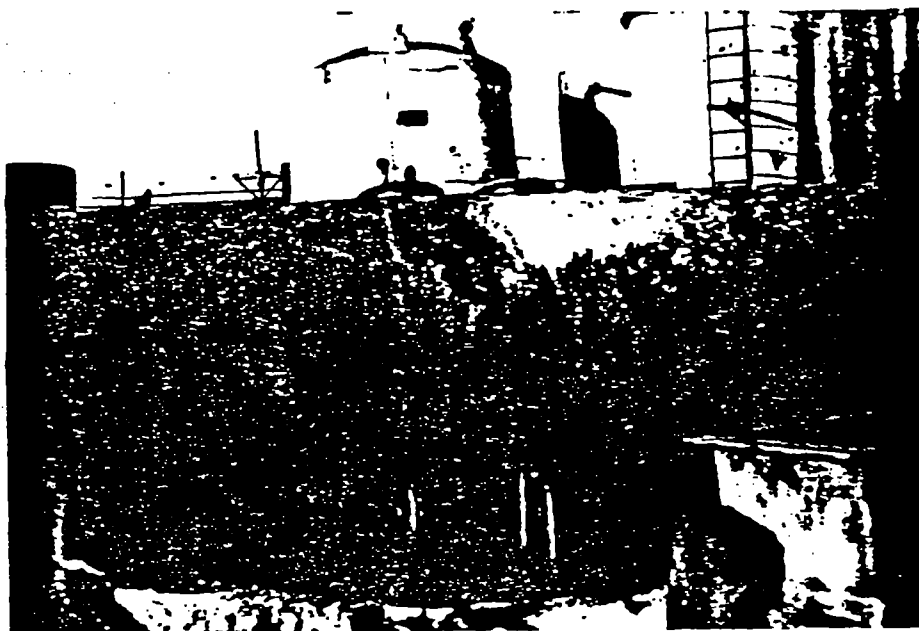
Standing process water - south of Tank 19.



Past leakage and fiberglassing of manway seams
of cyanide tanks.



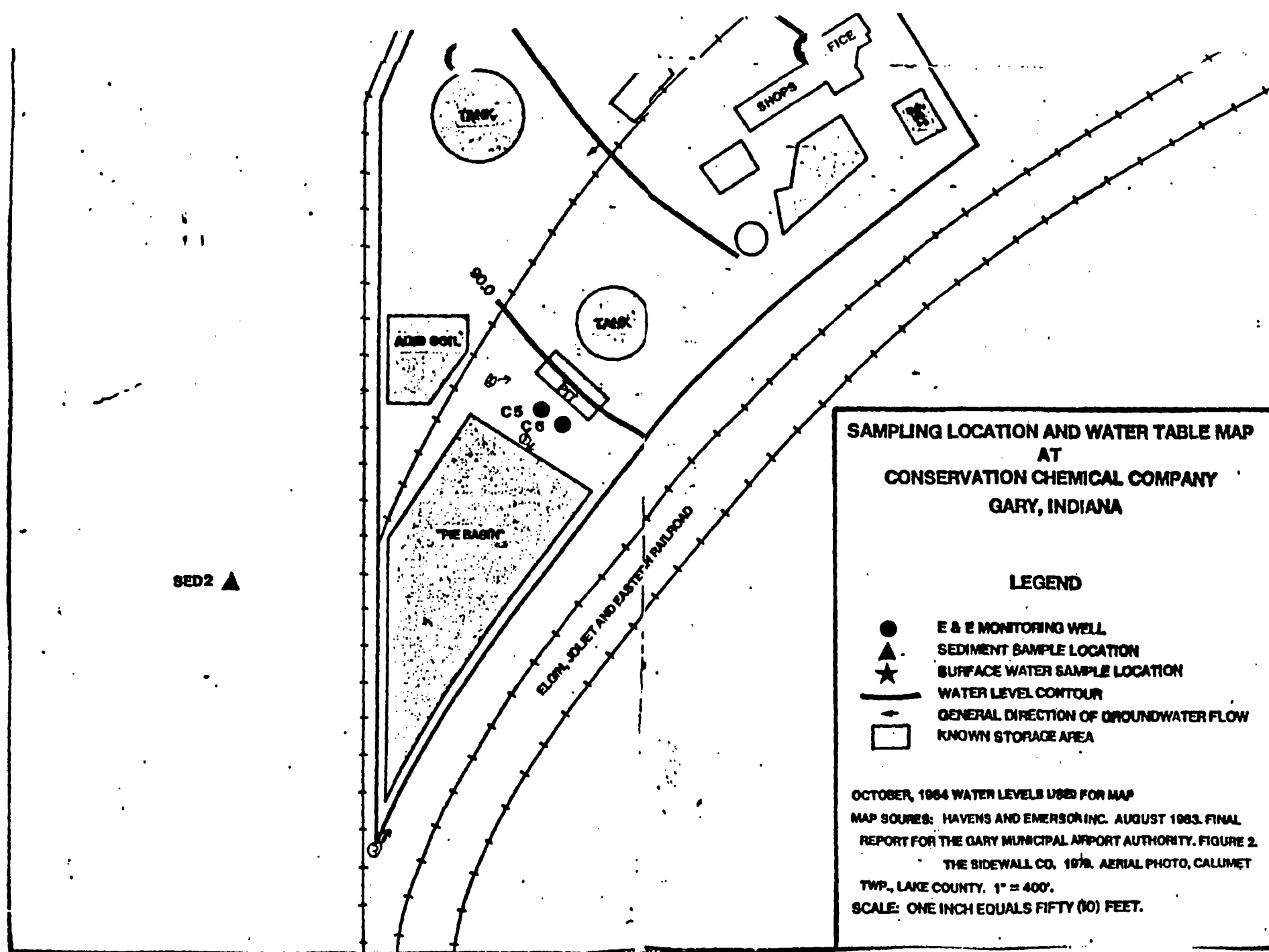
Past leakage and fiberglassing of manway seams
of cyanide tanks.



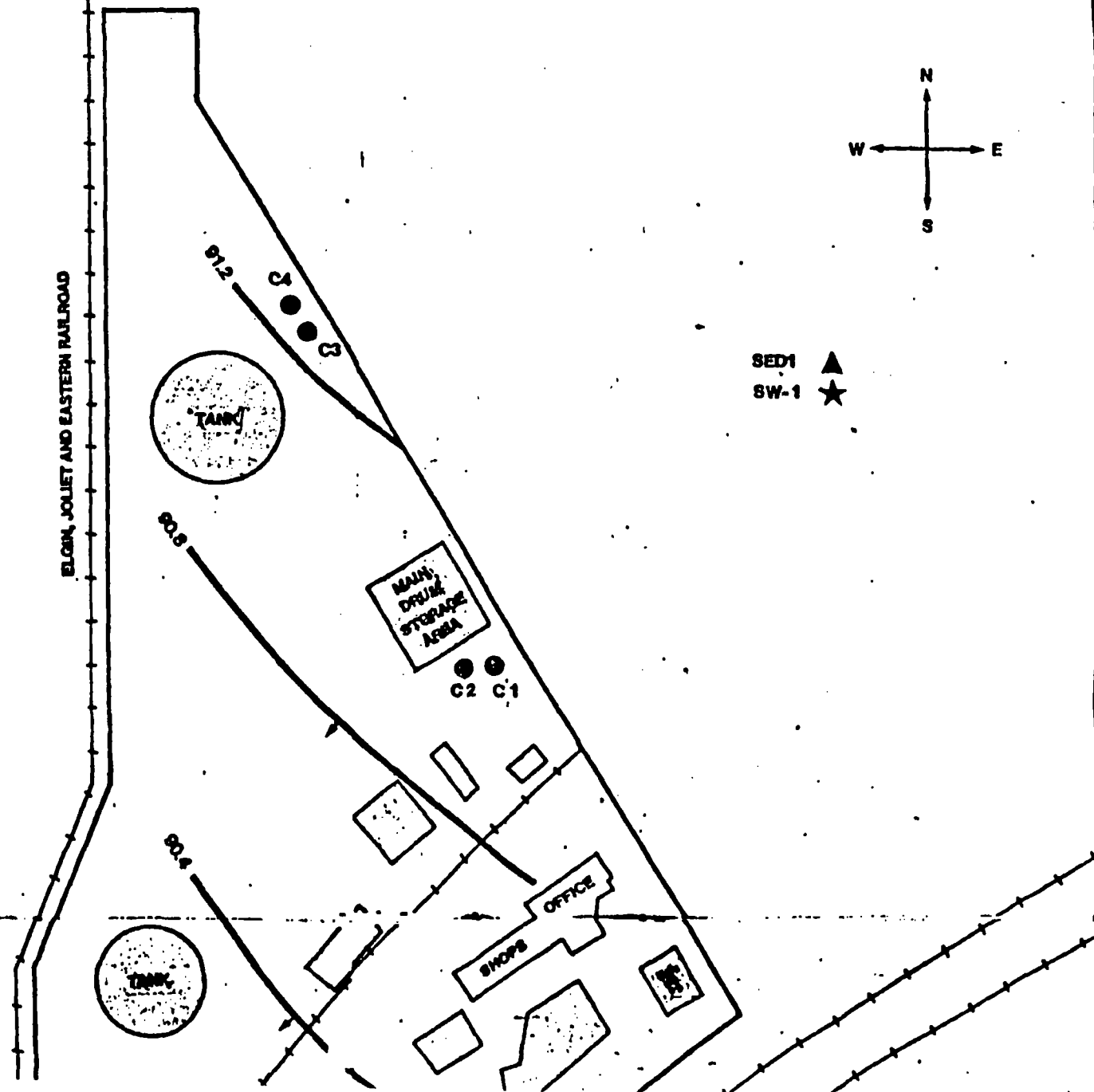
Tank 5 with hole corroded through.



Past leakage and fiberglassing of manway seams
of cyanide tanks.



PL/ 1



0000005

EPA Region 5 Records Ctr.



224904

EMERGENCY ACTION PLAN
FOR
CONSERVATION CHEMICAL COMPANY
GARY, INDIANA

Prepared For:
U.S. Environmental Protection Agency
Region V
230 S. Dearborn Street
Chicago, Illinois

CONTRACT NO. 68-95-0017

TAT-05-F-00607

TDD# 5-8502-06

Prepared by:
WESTON-SPER
Technical Assistance Team
Region V

May 1985



1.0 INTRODUCTION

The Conservation Chemical Company facility, located in Gary, Indiana, is presently functioning as a chemical recycler, producing ferric chloride iron-salt coagulants from waste pickling liquor. The facility encompasses a triangular four-acre parcel of land at 6500 Industrial Highway (Figure 1). The site is bounded on the west and southeast sides by the Elgin, Joliet and Eastern Railroad right-of-ways and on the northeast side by a vacant industrial lot (Figure 2). The Gary Municipal Airport borders the site along the south-east side.

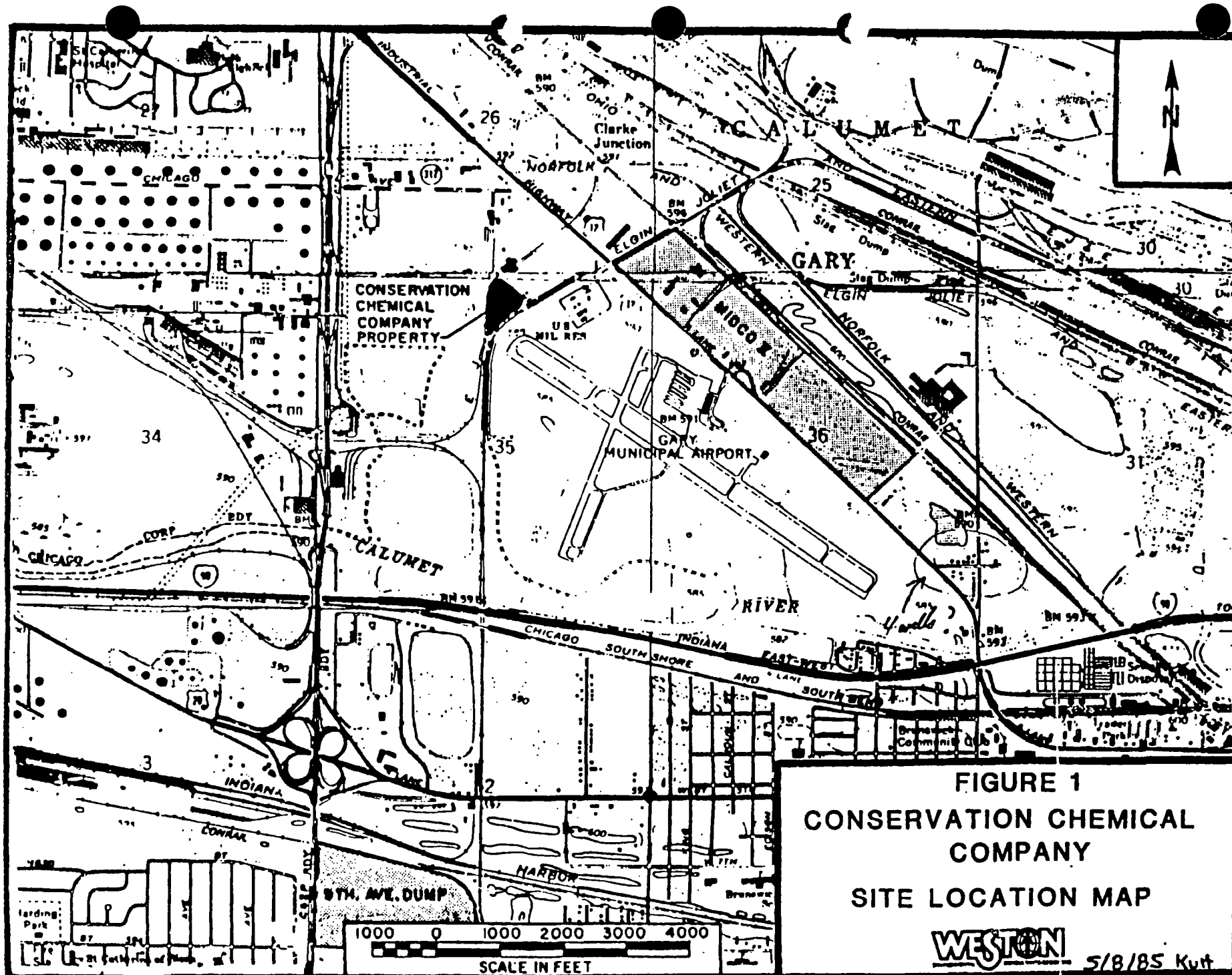
The Conservation Chemical facility is situated approximately one-quarter mile southwest of where its access road joins Industrial Highway. Its location prevents a discernable view of the site from the highway. The site is bisected by a railroad spur that is used to transport chlorine (raw material) into the facility and transport out the ferric chloride product. The majority of the process work area is confined to within the perimeter of the site roadway (Figure 2).

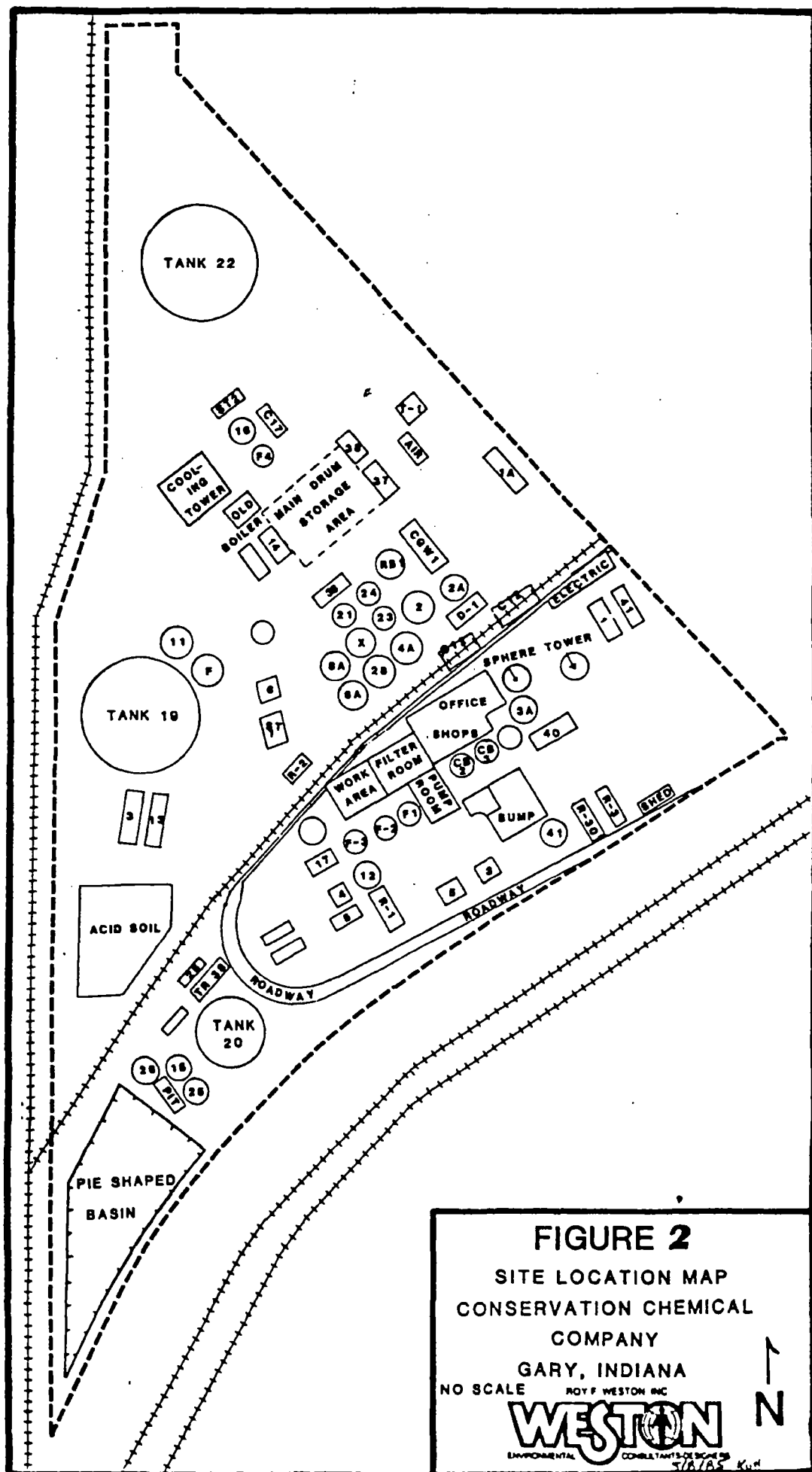
The facility stores on its property hazardous waste materials that were generated from past site activities under the present and previous owners. Due to the nature of the materials existing on site and the condition of the material's containment, the site has been deemed an imminent hazard to the environment and human health. The facility's owner is currently engaged in preparing a RCRA Part-B permit for the second time; the first application submittal was denied by the U.S. EPA due to deficiencies. An enforcement action by the RCRA division for regulation compliance is presently being pursued.

Per the request of the U.S. Environmental Protection Agency (U.S. EPA Spill Response Section), the Technical Assistance Team (TAT) developed this Emergency Action Plan (EAP) for the Conservation Chemical site to provide abatement methods and costs for a site cleanup. The plan basically addresses the above-ground tank storage of cyanide liquid waste, PCB-contaminated oils, neutralized acid waste and organic solvents that exist on site. Inclusive in the plan are recommended removal actions for on-site handling of materials and alternate disposal methods. A cost analysis for the removal action is included in the last section of the plan.

2.0 SITE HISTORY

Conservation Chemical began its operation at its present location in April of 1967. The facility was owned and operated







by the Berry Oil Company prior to 1967 as a petroleum oil refinery. A number of drums and tanks now utilized by Conservation Chemical were left over from the time the site functioned as a refinery. Other remnants remaining on site also include the office/shop building, two concrete-lined pits, a distillation column, a forced draft cooling tower, and a waste disposal pit (Figure 2). The disposal pit, referred to as the pie-shaped basin, is located at the southern apex of the site. The basin initially functioned as part of the wastewater treatment system devised for the refinery; it was also employed as a disposal pit by both the refinery and Conservation Chemical. According to the owner of Conservation Chemical, Mr. Norman Hjersted, the significant quantity of waste oils that presently exist on site are residual materials left from the refinery operation.

The first eight years Conservation Chemical was in operation, from 1967 to 1975, the facility operated as a producer of ferric chloride, which was marketed as a coagulant for wastewater treatment plants. In 1975, the company ceased production of ferric chloride and began to operate as a hazardous waste terminal and treatment facility. At that time, the facility's primary method of treatment involved waste neutralization. The cyanide waste that is presently stored on site resulted from this period when the site operated as a treatment facility. Conservation Chemical was forced into cessation of its hazardous waste activities as a direct result of its inability to comply with federal government hazardous waste regulations. Following its abandonment of hazardous waste activities, the company redesigned the plant for reinstatement of its ferric chloride production.

3.0 FACILITY DESCRIPTION AND CURRENT ON-SITE ACTIVITIES

3.1 Drum and Tank Storage

The Conservation Chemical facility contains numerous bulk tanks of various sizes that are presently used only for storage purposes and are not involved in the process activities. In addition to the tanks, approximately 300 drums exist on site (Tables 1 and 2). A total of 13 storage tanks, containing metal-laden cyanide-contaminated liquid wastes, exist on site and were generated from metal plating operations. Concentrations of cyanide range between 50 parts per million (ppm) and 2.5%. The majority of the cyanide waste storage tanks are located along the northwest side of the railroad spur directly across from the office/shop building. Two other cyanide storage tanks are positioned directly adjacent to the office/shop building, which are the spherical tank and the cracking tower. Many of the tanks exhibit highly

TABLE 1

TANK INVENTORY OF CONSERVATION CHEMICAL AS OF FEBRUARY 4, 1985¹

<u>Tank Number</u>	<u>Contents</u>	<u>Capacity (gal)</u>	<u>Quantity (gal)</u>
CB-2 and TUB	Ferrous chloride	16,200	8060
CB-3 and TUB	In process	16,200	N/A
3-A	Ferric chloride	21,400	13,603
R-3	Ferrous chloride	10,250	N/A
R-30	Ferrous chloride	7000	6700
12	Ferrous chloride	12,200	10,415
F-1	In process	21,000	21,000
F-2	Ferric chloride	21,000	8348
F-3	Ferrous chloride	14,000	N/A
RR-1	Ferrous chloride	8500	6450
40	Hydrochloric acid	15,500	10,544
41	Hydrochloric acid	15,500	N/A
1	To be used for storage		
17	To be used for storage		
Rail car 82996	Chlorine	N/A	180,000
Rail car 75242	Chlorine	N/A	14,453
Rail car 75423	Ferric chloride	N/A	15,969
R-15	Waste acid	8000	Empty
R-31	Waste acid	8000	Unusable
R-38	Waste acid	2400	N/A
20	Neutral acid sludge	420,000	242,760
5	Silica etch	121,000	3000
2	Solvent	462,000	43,600
D-1	Solvent	120,000	9000
15	Solvent	234,000	5780
25	Solvent	172,000	161,000
19	Oil and water sludge	842,000	13,992
22	Asphaltic fuel oil	1,464,685	137,514
F-11	Dirt and solvent spill	6000	5200
Sphere	Cyanide	22,800	7700
Tower	Cyanide	30,000	8500
RR2	Cyanide	10,000	6000
TR38	Cyanide	6500	1500
ST1	Cyanide	20,000	18,000
DB1	Cyanide	120,000	2235
2A	Cyanide	21,400	11,637
4A	Cyanide	21,400	20,900
8A	Cyanide	17,625	17,000
26	Cyanide	14,350	11,115
28	Cyanide	19,100	18,781
23	Cyanide	19,100	11,000
X	Cyanide	19,430	12,953
CY1	Sludge	22,100	1473

¹ Information obtained from dated inventory sheet supplied by Conservation Chemical.

TABLE 2

DRUM AND VARIOUS CONTAINER INVENTORY
CONSERVATION CHEMICAL COMPANY¹

<u>Container Content Description</u>	<u>Quantity</u>
Empty cyanide sludge drums	N/A
Empty plastic container	16
Empty plastic container with tops removed	10
Large oil containers	3
Large empty containers	3
Five gallon paint pails	2
Five-gallon bottles	4
Acid in brown plastic container	1
HF in blue plastic container	1
Paint in 1 gallon and 5 gallon pails	4
Fiberglass crystals/drum	1
Unknown drummed material	2
Iron filings/drum	1
White paste/drum	1
Water (?)/drum	3
Soil, lime, and neutralized nitric sludge/recovery drum	1
Lapping oil/drum	22
Acid (?)/drum	1
Irodite/drum	1
White crystals/drum	5
Green crystals/drum	2
Black and orange material/drum	2
Red material-soil (cobalt?)	N/A
Plastic chrome/drum	N/A
Paint sludge/drum	8
Copper crystals (acid)/drum	19
Lab chemicals/drum	14
Filer aid (?)/drum	1
Solvent contamination soil/drum	24
Overpacked material (?)	19
Tiles/overpack	15
Empty/drum	2
Cyanide-contaminated soil/drum	7
Cyanide (?) -contaminated material/drum	2

¹ Information supplied by Conservation Chemical; total of 154 drums with material and 110 drums are empty.

deteriorating conditions as evident by punctures in the side and along the top of the tanks. Many of the tanks exhibit extensive rusting; several of the tanks have had their tops partially destroyed (tanks #19 and #20). The manways on several of the tanks had been resealed with fiberglass due to the potential of leakage around the seams. The three large refinery-size storage tanks (tanks #19, #20 and #22) accommodate a variety of types of material. Tank #22 contains approximately 137,514 gallons of asphaltic fuel oil that is contaminated with PCBs at levels between 45 ppm to 76 ppm. The tank appears to be in good condition and has had no reported leakage. Tank #19 currently holds approximately 25,000 gallons of a material that is believed to be number six fuel oil; this material is also contaminated with PCBs at a high end level of 1256 ppm. Tank #19 has had a chronic leaking problem; the viscosity of the material, however, has limited the distance material has moved from the tank. Adjacent to tank #19 exists a neutralized acid waste lagoon which accepts process waste from the sump located directly behind the office/shop building. The remaining refinery-size tank (#20) is located just north of the pie-shaped basin. Tank #20 contains neutralized acid waste, which is similar to the material in the pie-shaped basin. The tank is in poor condition and has had reported quantities of leakage. A pit is presently being excavated adjacent to the tank in an effort for compliance under the Spill Prevention and Countermeasure Contingency Plan regulations (40 CFR 112.7).

The drum storage area is located just northwest of the cyanide storage tanks; approximately 264 drums are staged in this area. According to the facility's inventory sheet, 110 of these drums are empty. Many of the drums have been overpacked; the majority of the drums are not placarded.

The majority of the tanks that are located directly behind and adjacent to the office/shop building are involved in process and are generally in good condition. These tanks basically contain either ferric chloride, ferrous chloride, or hydrochloric acid; their quantities are continually changing due to process involvement. Several recently purchased empty tanks are staged in this area; they are slated to replace the more highly deteriorated tanks. Rail tank cars are periodically brought onto the site by the rail spur for raw material delivery (chlorine) or product material transport (ferric chloride).

3.2 Pie-Shaped Basin

The pie-shaped basin is located at the southern apex of the Conservation Chemical property and encompasses approximately

90 square feet of land. Presently, the basin has been abandoned and is no longer used for dumping or disposal. It was originally employed as a settling lagoon for the disposal of hazardous waste materials and oil products. The surface of the basin was elevated approximately four feet above grade in an apparent effort to ensure infiltration into the shallow water table (Havens and Emerson, 1983). The basin contains an estimated 600,000 gallons of refinery waste emulsions, neutralized pickling liquor waste, and a variety of noncharacterized hazardous waste.

4.0 PRESENT SITE ACTIVITY

Currently, the active manufacturing process conducted at Conservation Chemical involves the production of iron-salt coagulants, primarily ferric chloride. The ferric chloride product is marketed to waste treatment plants as a chemical precipitant for phosphorous removal. The process method entails the control reaction of ferrous chloride waste pickling liquor with chlorine and scrap iron. The pickling liquor is concentrated by thermal evaporation and air oxidized; the chlorine is reacted with the ferrous chloride which produces ferric chloride. Simply stated, the conversion results from an overabundance of chlorine atoms in contact with the ferrous chloride. The scrap iron was initially included in the process to remove the free acidity by conversion of the iron salts; however, the scrap iron's primary purpose is to increase the specific gravity to a level required for the reaction to occur.

The waste pickling liquor handled at the facility is generated principally from the steel mill industry in the surrounding area. Pickling lines are utilized in steel mills to remove scales that form on the metal as a result of the rolling process. The scales have to be eliminated to prevent a lack of uniformity and irregularities on the metal surface. Continuous picklers will utilize either hydrochloric acid or sulfuric acid in their process. A ferrous chloride waste material results from a pickling process employing hydrochloric acid; the scales are dissolved in the acid producing the ferrous chloride. When the ferrous chloride reaches a concentration of 18% to 20%, the pickling acid is no longer efficient and the liquor must be discharged. The spent pickling liquor, in general, contains free hydrochloric acid, ferrous chloride and water.

5.0 AREA GEOLOGY AND SITE HYDROLOGY

The surface geology in the area of Conservation Chemical is characterized by a generally flat topography. The facility is within the confines of the Calumet Lacustrine Plain, that



is characterized by, and to a limited extent, dunes and beach ridges. The surficial geology is composed of 150 feet of unconsolidated glacial deposits; these deposits overlay a bedrock dominated by closely jointed dolomites and cherty limestone of Middle Silurian Age.

The top 50 feet of the glacial till deposits are composed of glacial lacustrine sands and gravels. The distinctive character of the deposits are exhibited as sand bars, spits, beach ridges and dunes. This shallow unit, as described, is part of a larger unit referred to as the Atherton Formation. Approximately 100 feet beneath the 50 foot top unit extends a stratum that is composed chiefly of a pebbly, sandy and silty clay fill, in addition to discontinuous seams of sand and gravel.

The surface soils on the site have been disturbed extensively due to the various construction activities undertaken at the site. Large amounts of fill material, such as slag, cinders and dirt, dominate the shallow soils. According to the local soil survey map, the indigenous soils at the site are classified as the Oakville-Tawas complex which consists of 45% Oakville fine sand, 45% Tawas muck over fine sand, and 10% Maumee loamy fine sand. The permeabilities of the complex range from 4.4×10^{-4} to 1.4×10^{-3} cm/sec in the muck to greater than 1.4×10^{-2} cm/sec in the fine sand.

Surface water drainage on the site moves on a shallow grade towards the southwest. The Grand Calumet River flows approximately one mile south of the site and would, theoretically, receive surface run-off from the site should a continuous flow be possible. The area tends to experience extensive ponding; marshes are frequent throughout the entire vicinity. The lack of a significant topographic gradient and the highly permeable soils reduces the potential for any extensive surface water flows.

The nature of ground water movement in the area of the site is difficult to define. The existence of a ground water divide is believed to be located quite near the immediate vicinity of the site. Subsequently, ground water moves in either a northward direction towards Lake Michigan, or southward to the Grand Calumet River. As of the present, no determination has been made as to which watershed the site is in. The water table has been estimated to occur at approximately 12 feet beneath the surface and the shallow aquifer is unconfined. This aquifer is referred to as the, as the

7 during the addition of the hypochlorite. Formation of chlorine gas would be possible because the solution would no longer be in an oxidizing environment necessary to maintain chlorine consumption. Chlorine and hydrogen cyanide monotox units are recommended for monitoring in the area of the treatment tanks.

In summary, the treatment system will be employed if majority of the cyanide waste on site is treatable. Preliminary laboratory analysis should be performed on composite waste samples to determine the treatability of the material. The treatment system was designed for a "worst case" situation. It is possible that solid cyanide will not require treatment. If that was found to be the case, then tank #1 phase of the treatment would be eliminated. An itemized listing of costs and a work schedule is included in Section 8.2.

7.1.2.1 Treatment Procedures

Phase I Treatment: Solid Cyanide Destruction (Tank #1)

- o Raise pH to 10-11 using lime ($\text{Ca}(\text{OH})_2$) followed by rapid mixing for 5-10 minutes.
- o Add hypochlorite (NaOCl) to excess on starch iodide paper and rapid mix for 5-10 minutes.
- o Allow sludge optimal time for settling.
- o Resultant slurry is then filtered through plate and frame filter press.
- o Solids are removed from press for disposal to a secure landfill.

Phase II Treatment: Dissolved Cyanide Destruction and Chromium Reduction

- o Raise pH in tank #2 to 10-11 using lime ($\text{Ca}(\text{OH})_2$).
- o Add hypochlorite (NaOCl) to excess on starch iodide paper followed by rapid mixing for 5-10 minutes.
- o Chromium reduction will be accomplished through decrease in pH to 7.0 by addition of sulfuric acid. Solution will be in a reducing state.
- o Sodium bisulfite is added in excess followed by rapid mixing. As a result, the pH will be lowered to 5.5-6.0.

Calumet Aquifer; its saturated thickness is approximately 50 feet. Ground water recharge results from direct infiltration from rain and surface run-off. The base of the aquifer is composed of an underlying clay till unit; this unit exhibits an average permeability of 1.4×10^{-7} cm/sec.

6.0 IMMINENT THREATS TO THE ENVIRONMENT AND HUMAN HEALTH

6.1 Cyanide Release Potential

The present condition of the Conservation Chemical facility predisposes the site to a potentially severe release of several varieties of hazardous materials. The most widespread material on site, and undoubtedly the most hazardous, is the cyanide liquid waste. Approximately 147,321 gallons of cyanide liquid exist on site in 13 separate tanks. Table 1 lists each tank's capacity and current volume. The majority of the waste was generated during the period when Conservation Chemical operated as a hazardous waste treatment and transfer facility. The cyanide material has existed on the site for at least ten years. Visible inspections of the cyanide tanks appeared to indicate that several of these tanks are in deteriorated condition. Integrity of several of the tank manways were questionable during a recent site inspection; condensate was observed to be collected around the seams of the manways. The plant manager indicated that several of the seams had been resealed with fiberglass. In addition, the plant manager indicated that a significant cyanide liquid spill occurred over a year ago due to the failure of the valve on tank #8. The release resulted from the tank valve and the fittings being made of brass; cyanide will readily attack brass causing extensive corrosion. As a result of the corroded valve, approximately 200 gallons of cyanide liquid was released. The remaining material in the tank was pumped into another tank and a steel valve was retrofitted to replace the brass valve. The contaminated soils around the tank were treated in-situ with a hypochlorite solution. The plant manager also indicated that during routine transfer of cyanide liquids, spills would unavoidably occur and subsequent hypochlorite treatment of the soils would be necessary. The occurrence of leaking cyanide tanks on site is not an isolated event. During a recent site inspection, one of the cyanide tanks had a small leak at its base; a metal bucket was placed under the leak to collect the material. Hypochlorite is readily available and frequently dispensed on soils at the site due to the relatively persistent releases of cyanide liquid. These quantities, in most instances, are relatively small. The potential does appear high for a major cyanide liquid release, given the conditions of the storage tanks now in service.

6.1.1 Cyanide Health Hazards

A cyanide release at the site would endanger the health and welfare of the workers in the direct vicinity. The release of cyanide vapor is most common in the presence of acids, which liberates a hydrogen cyanide (HCN) vapor. HCN is a rapidly acting poison (Hamilton and Hardy, 1974). The direct action of the cyanide ion in the body results in the paralysis of the respiratory enzyme cytochrome oxidase. This action is shared by all inorganic cyanide salts. The behavior of the cyanide ion prevents the uptake of oxygen by the tissues with resulting asphyxial death. The blood itself, saturated with oxygen, remains arterial in color after it reaches the venous circulation, producing a characteristic cherry-color appearance of the victim of acute cyanide poisoning. The cyanide ion is absorbed from all tissues; cyanide can be readily absorbed through the skin. The currently accepted threshold limit value (TLV) for HCN and cyanogen in the United State is 10 ppm.

6.2 PCB Storage and Health Considerations

The materials in tanks #19 and #22 have been identified as PCB contaminated. A total of 495,850 gallons of PCB-contaminated material is estimated to be on site. Tank #22 appears to be structurally sound and not in danger of failure; however, tank #19 has a past history of leakage. Tank #19 presently stores approximately 191,000 gallons of water and fuel oil. The fuel oil is contaminated with PCBs and is estimated to exist at a volume of 25,000 gallons. It is believed that all 470,850 gallons of the oil/asphalt mixture in tank #20 is contaminated with PCBs. #22

During the recent inspection, material from tank #19 was evident along the base of the tank. The viscous nature of material in tank #19 prevents it from rapid migration away from the tank. The PCBs in tank #19 have been identified as Arochlor 1254 in concentrations between 100 and 1200 ppm.

PCBs are considered a hazard to health at extremely low levels. They are known to decompose slowly over a period of several decades. PCBs are persistent in the environment due to their being highly insoluble in water, in addition to their carbon content being largely nonconsumable by bacteria. PCBs that enter lakes and rivers are generally associated with fine particulate matter suspended in water and contained in bottom sediments. These sediments act as a reservoir over a prolonged period from which PCBs may slowly be released. Fish and various other aquatic organisms are exposed to PCBs through water and sediments. Bioaccumulation of PCBs occurs due to uptake and storage of the material in the fatty tissues of organisms.



Human exposure to PCBs can occur through various means. Routes of contamination include food chain transmission (mainly through PCBs in fish), and industrial accidents, such as leakage or spillage of PCB-containing fluids. PCBs can enter the body through the skin, lungs, and gastrointestinal tract. Following the absorption of PCBs into the body, distribution throughout the body includes the blood, fatty tissues, and several organs including the liver, kidneys, lungs, adrenal glands, heart, skin, and brain. Historical toxicological evidence has shown that PCBs can cause:

- o Chloroacnegenic and hepatoxic effects in humans.
- o Miscarriages, still births, and transplacental transmission in an abnormal pigmentation.
- o PCB residues in human adpose tissue, serum, and milk.
- o Health effects have been shown to manifest into acne-form lesions, around the eyes (chlorinated naphthalenes), anorexia, nausea, headache, abnormal pain, insomnia, and disturbance in taste.
- o Arochlor 1254 has been shown to be carcinogenic in male mice, producing tumors and lesions in the livers of the mice.

6.3 Neutral Acid Waste Material and Potential Environmental Threats

Tank #20 contains approximately 412,504 gallons of material referred to as "Neutral Acid Waste," which resulted from neutralization of waste pickling liquor. The material is dominated by percentage quantities of iron, chromium, copper, zinc, and nickel. Inspection of the tank has shown it to be in poor condition and portions of the top of the tank have been destroyed allowing rain water and snow to enter the tank. In addition, the tank has a past history of leakage.

The potential dangers presented by tank #20 involves primarily the quantity of hazardous material in the tank and the deteriorated condition of the tank. The high concentration of metals in the tank poses a significant threat to the surrounding environment; the large volume of material involved would ensure a large area to be contaminated should the tank fail. The metals could potentially, at their present concentration, create acute hazardous conditions for workers who would come in contact with spillage. Potential excessive ground water contamination is also a concern should the tank

fail. Although the shallow ground water aquifer (the Calumet Aquifer) is not a significant drinking water resource, a large volume of contaminant migration could eventually lead to the Grand Calumet River or Lake Michigan. This would prove to be a endangerment to aquatic life.

6.4 Waste Solvent Material and Potential Health Hazards

Tanks #15 and #25 present a significant hazard due to the volume of material present and the nature of the material involved. The material is a combination of a variety of chlorinated hydrocarbons that were mostly generated as solvents. The tanks are located directly adjacent to and just south of tank #20. The tanks contain a combined total of 33,300 gallons of solvent material that is dominated primarily by a methylene chloride-hydrocarbon mixture. Analyses have shown the organic chloride content ranges from 8.5% to 14.5%. The condition of the two tanks is highly suspect due to the corroded appearance along the outside of the tanks.

The most abundant type of the hydrocarbon is methylene chloride. Most chlorinated hydrocarbons (e.g., methylene chloride) encountered in industry are extremely volatile a property which permits a hazardous exposure to occur more rapidly than one might anticipate. A characteristic property of all the members of the chlorinated hydrocarbon series is the ability to depress the central nervous system leading through the several stages of clinical anesthesia ultimately to death from respiratory paralysis. The generally observed phenomena in humans, typical of the material, include: dizziness, confusion, drowsiness, nausea, vomiting, and occasionally, abdominal pain. There may be visual disturbances. Deep anesthesia may lead to death from respiratory depression or circulatory failure. Actual anesthesia is probable should spillage or gross misuse of the material cause inhalation of vapors. Reports have documented the sudden death of healthy individuals who had been exposed to chlorinated hydrocarbons of relatively low toxicity. The deaths are believed to be possibly caused by transient ventricular fibrillation due to evidence that chlorinated hydrocarbons sensitize the myocardium to the effects of endogenous epinephrine. Prolonged contact with the solvents on the skin can result in extreme dryness and fissuring with associated infection. Immersion of the fingers in methylene chloride leads to severe pain with transient numbness. As evident, these materials pose substantial hazards should tank failure occur.

7.0 RECOMMENDED REMOVAL ACTIONS

The removal actions proposed for the Conservation Chemical facility are intended to mitigate the imminent hazards and threats described in Section 6.0 of this EAP. The materials on site addressed for cleanup have been segregated into four separate waste streams which are as follows:

- o Cyanide-contaminated liquids and sludges;
- o PCB-contaminated oils in tanks #19 and #22;
- o Neutral waste acid in tank #20;
- o Chlorinated hydrocarbon material in tanks #15 and #25.

Each waste stream will be addressed and treated individually for handling and removal recommendations. Alternatives will be provided for materials that can be cost-effectively treated in-situ. Projected cost estimates and time schedules will be determined for each waste stream removal.

7.1 Cyanide Removal and Metal Treatment: In-Situ Treatment

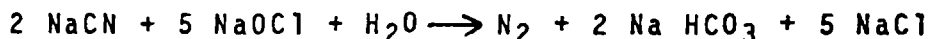
Approximately 150,000 gallons of cyanide liquid waste exist on site in 13 separate tanks. Currently no determination has been made to the amount of sludge present in the tanks. The concentrations of the cyanides range between 62 ppm and 19,925 ppm; the vast majority of the cyanides are complexed with metals which resulted from the waste being generated from the electroplating industry. Ostensibly, the most common metal-cyanide complexes are copper, chromium, zinc, nickel, and cadmium.

Prior to the initiation of an in-situ treatment system, design criteria have to be addressed and the determination of whether the material is treatable. Material sampling will be conducted to obtain representative samples of the cyanide waste throughout each tank. Analysis will determine the treatability of the cyanide; it will be presumed here that the majority of the material is treatable. Alternate disposal methods will be provided in Section 7.5 for cyanide material decidedly not treatable. Cyanide waste that will be considered not treatable includes cyanide concentrations of 2% or greater, and selected metal complexes that are not amenable to treatment.

The on-site treatment of the cyanide may provide a cost-efficient and effective method of complete cyanide destruction. The amount of cyanide treated will be dependent on the chemical characteristics of the material--whether it is amenable cyanide.

At this point, it is anticipated that following the complete treatment of the cyanide waste, the resulting effluent will be disposed at the municipal treatment plant in Gary, Indiana. This will require not only total destruction of the cyanide, but also removal of the metals to acceptable levels of the treatment plant. The in situ treatment system involves two stages. The primary stage concerns the treatment and removal of suspended solids containing high concentration levels of cyanide. The secondary stage of the treatment involves the destruction of the remaining cyanide in the liquid and the removal of heavy metals from the waste. In order to prevent a release of HCN vapors, the cyanide amenable to chlorination must be destroyed prior to pH adjustment with the strong acid.

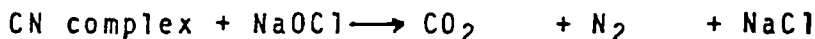
Destruction of cyanide may be undertaken by several methods. The method of choice for in-situ treatment will be destruction with hypochlorite. The treatment, simply stated, is completed by oxidation of the cyanide ion by chlorination. The cyanide radical, CN, is disrupted with the carbon atom being converted to carbonate (CO₂) and the nitrogen atom to nitrogen gas (N₂). The CN will be treated with a sodium hypochlorite (NaOCl) solution. The reaction is analogous to a chlorine gas reaction with cyanide in an alkaline medium; the reaction with a sodium cyanide mixture would be as follows:



The treatment must be conducted at a pH of between 10 and 11. To maintain the pH sodium hydroxide will be added to the treatment solution. Plating waste inherently will have between 2% to 10% solids which will have to be treated and removed prior to the liquid treatment.

7.1.1 Treatment System for Cyanide and Heavy Metals

The treatment of complexed cyanide will be undertaken with sodium hypochlorite solution. The reaction of sodium hypochlorite with cyanide will, in general, liberate N₂ and CO₂, as in the following equation:



The reaction occurs optimally at a pH of 10 to 11 and at atmospheric temperature and pressure. At this pH level, the solubility of cyanide particles is low. It is desirable to treat insoluble solid cyanide separately from dissolved cyanide in sludges that contain 2% cyanide solids or greater.

Treatment of the metals will be conducted sequentially in association with the cyanide destruction. The majority of the metals will be removed through precipitation using a chemical flocculant. Chromium, however, will be treated differently than the other metals. The chromium on site at Conservation Chemical is in a hexavalent state which is highly toxic to aquatic life even at low concentrations. The hexavalent chromium will have to be reduced to trivalent chromium prior to discharge. Unlike other metals, hexavalent chromium is soluble through the entire range of pH. The method of choice for reduction will be treatment with sodium bisulfate. The reduction treatment will entail lowering the solution pH to 3 or below with sulfuric acid. This will be followed by a conversion of chromium to the trivalent state using sodium bisulfite. The trivalent chromium will be precipitated out of solution using lime or a caustic soda. Precipitation is most effective at a pH range of 8.5 to 9.5, which is a result of the low solubility of the chromic hydroxide at that pH range. It is recommended that bench scale tests be performed to determine the treatability of the hexavalent chromium prior to commencing on-site treatment.

The treatment of copper will also require a pH adjustment to break down the copper complexes. This will be accomplished with a strong acid such as H_2SO_4 . The next step involves the reaction with NaOH to produce a copper hydroxide precipitate which will settle out of solution.

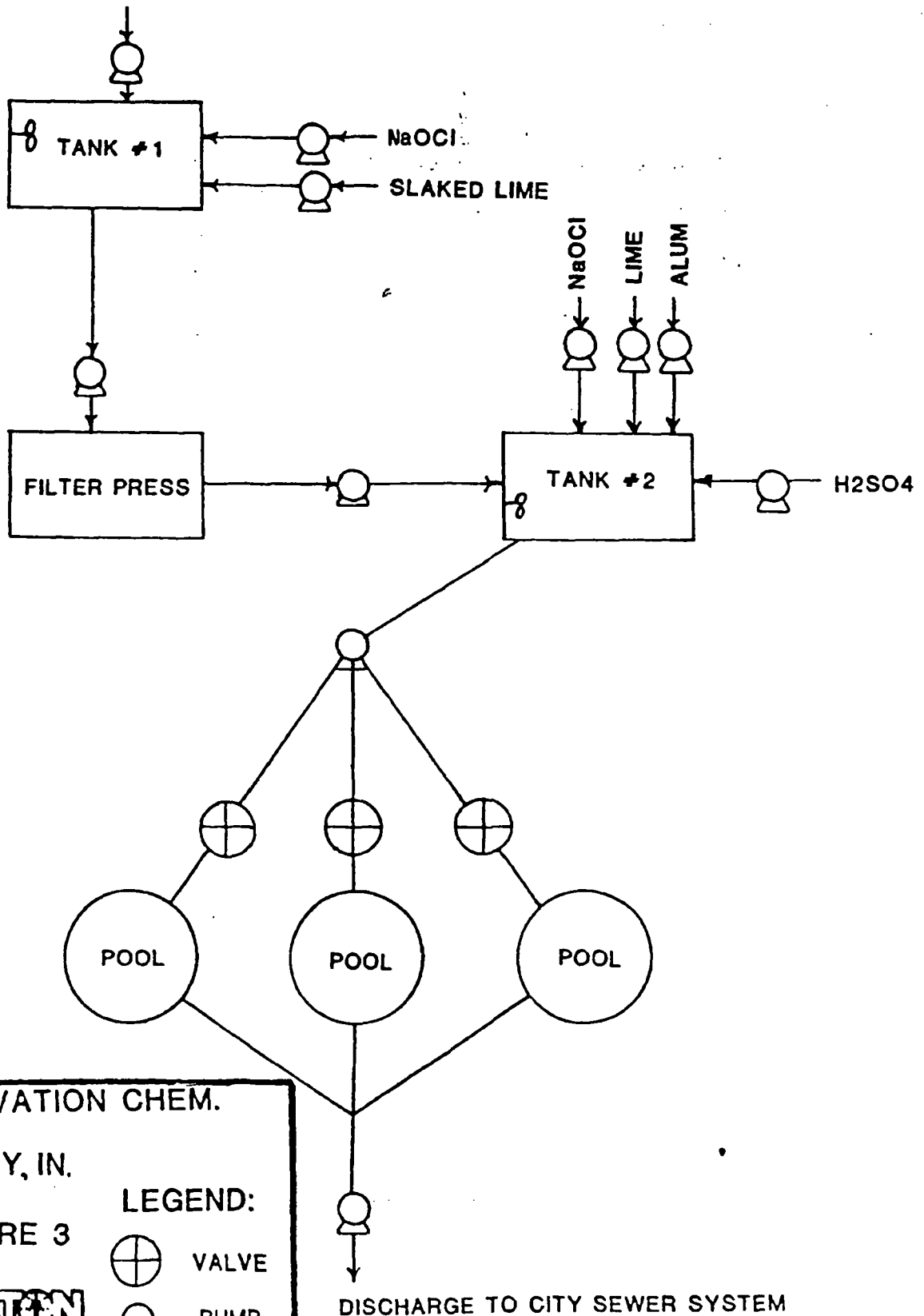
Other heavy metals such as nickel, zinc, and cadmium, will be treated by means of chemical precipitation. Alkaline conditions will be achieved through the addition of lime; insoluble metal hydroxides will form upon the addition of the lime. As previously mentioned, precipitate formation is generally most effective at a pH range of 10 to 11. Solubility of metals is dependent upon pH; the lower the solubilities, the greater the efficiency of the treatment. The range of pH indicated will usually assure a minimum solubility of the metals in solution.

7.1.2 Treatment Description for Cyanide Destruction and Metals Treatment

A schematic (Figure 3) has been prepared to describe the step-by-step procedure for the treatment system. The tanks used for the treatment will be open-top lined sludge boxes. The destruction of high level concentrations of cyanide contained in waste solids will be completed in Tank #1. The initial step will involve pH adjustment to 10 by rapid mixing the lime ($Ca(OH)_2$) into solution. The cyanide destruction will result by means of oxidation using a sodium hypochlorite bleach ($NaOCl$). The resulting sludge material, which is cyanide free, will be pumped into a filter press which separates liquids from solids containing heavy metals. The solids will

CYANIDE WASTE TREATMENT SYSTEM

WASTE SLUDGE INPUT



CONSERVATION CHEM.

GARY, IN.

FIGURE 3

WESTON
CONSULTANTS & ENGINEERS

LEGEND:



VALVE



PUMP

KvH 5/8/85



be suitable for landfilling at a secure hazardous landfill. The resulting liquid effluent will be pumped into tank #2 and treated for dissolved cyanide and metals. The treatment of cyanide liquid in tank #2 will be similar to the treatment in tank #1. Following the cyanide destruction in tank #2, using hypochlorite, the hexavalent chromium will be treated by reduction to trivalent chromium. For this treatment, the pH will be lowered to a reducing environment (< pH of 7) by addition of sulfuric acid (H_2SO_4). Reduction of the hexavalent chromium is accomplished by the addition of sodium bisulfite. Spot tests for hexavalent chromium will indicate at which point only trivalent chromium remains in the solution. Rapid mixing of the solution is required for an efficient reaction. The pH should drop to approximately 5.5 during the reduction of hexavalent chromium.

Following the complete reduction of hexavalent chromium, the pH of the solution is decreased further to about 4.0 by addition of sulfuric acid. A chemical flocculant (alum) is added simultaneously. The copper complexes will break down at these conditions which renders the copper free for treatment with a caustic soda (lime). As a result of the elevated pH (approximately 10 to 11), metal hydroxide precipitates will settle out of solution after a short period of rapid mixing. Tank #2 will be equipped with two rotating arms located at the bottom of the tank which will be used to collect the solids that settled out of solution. The remaining liquids in the tank will be pumped into a sand filter to remove fine particulates that did not settle out of solution. Holding pools will be utilized for temporary storage of the treated liquid prior to discharge.

The treatment design was devised as a batch process where reaction rates occur very rapidly with relatively low concentration of reactants. Consequently, batch volumes can be as great as handling equipment permits. Optimal batch size would be in the area of 10,000 gallons. Constraints on batch size would be controlled by the type of filters employed. Time per batch for the treatment would require approximately six hours.

Several safety precautions will be required during treatment system operation. Personnel working around the treatment tanks will be equipped with Level C protection at all times. Potential releases of hydrogen cyanide and chlorine gas exist during the reaction of treatment chemicals including hypochlorite, sulfuric acid, and caustic soda. Continuous pH monitoring must be undertaken; the maintaining of appropriate pH levels during the various phases of the treatment will prevent accidental vapor releases. One example of a potential release would occur if the pH were allowed to fall below

- o Addition of sulfuric acid and alum in equal proportions will reduce pH to 4.0. Copper complexes will break down.
- o The pH will be increased to 10-11 with caustic soda (NaOH) and lime followed by rapid mixing. Dissolved metals will form metal hydroxides which will settle out of solution under the alkaline conditions.

7.1.2.2 Treatment Process Considerations

Several considerations are necessary when undertaking the process for successful treatment:

- o During the first phase treatment, it is important that the hypochlorite be in excess to completely oxidize the cyanide, which will generate carbon dioxide and nitrogen gas.
- o Sufficient settling time must be allowed following mixing to assure optimal solid removal.
- o Lime would be the material of choice for the creation of a good filter cake in the press. Sodium hydroxide (NaOH) will also work, but will create a more gummy cake which could result in material handling problems.
- o During the second phase treatment, hexavalent chromium will be reduced only under neutral or acidic conditions. Sodium bisulfite must be present in excess for complete reduction.

7.2 PCB Disposal

7.2.1 Disposal of PCBs in Tank #19

A considerable volume of PCB-contaminated oil exists at the Conservation Chemical facility. Tank #19 has approximately 191,000 gallons of a combined mixture of oil sludge and water. It is estimated that only 25,000 gallons of the mixture is oil. The partially destroyed top to the tank has allowed additional water to collect in the tank. The water fraction of the mixture will be sampled for PCB analysis; if the water shows to be clean, it will be left on site. Should the water be contaminated, it will be disposed. For the purpose of cost estimation, it will be assumed that the water will not be required to be disposed. The 25,000 gallons of oil is believed to have the same viscosity as #5 fuel oil; this will present a difficult materials handling problem.



It is anticipated that a high-powered section pump will be required to remove the oil from the tank. This task will be undertaken using a "supersucker" for transfer of material into over-the-road tankers. Access into tank #19 will require the cutting of a large manway in the side of the tank. Sounding of the tank has indicated that the oil/water level is approximately five feet from the bottom of the tank. A manway will be constructed several feet above this level. It is recommended that the manway be cold-cut to prevent the possibility of vapor ignition. It is estimated that it will take a total of seven working days to complete the oil removal from tank #19. Following the transfer of the material into the tankers, each tanker will be analyzed for PCBs; the remaining water in tank #19 will also be analyzed for PCBs and treated accordingly.

7.2.2 Disposal of PCBs in Tank #22

The total quantity of 470,850 gallons of oil in tank #22 will most likely have to be moved for disposal. The material is an asphaltic oil that is very viscous, similar to #5 fuel oil. Representative samples will be taken at various levels in the tank to confirm PCB concentrations. Removal of oil from the tank will be done through the top of the tank. A "supersucker" will be utilized to transfer the material to over-the-road tankers. It is estimated that a total of 13 working days will be required to complete the task.

7.3 Solvent Removal and Disposal from Tanks #15 and #25

Tanks #15 and #25 contain a combined volume of 33,300 gallons of materials characterized as chlorinated hydrocarbon solvent with methylene chloride as the primary constituent. The organic chloride content ranges between 8.5% to 14.5%. The capacity of tank #15 is 23,400 gallons and the tank presently holds 18,200 gallons of material; tank #25 has a capacity of 17,200 gallons and presently holds 15,100 gallons of material. The tanks are, evidently, greater than three-quarters of capacity full. This may present some material handling problems; it is assumed that the valves at the bottom of the tanks are inoperable and that removal of the material will be done through the top of the tank. This will require the use of a cherry picker for access to the top of the tank and extended lengths of hose for removal of material. The material in the tanks are believed to be pumpable. A three inch trash pump should be sufficient for transfer of the material. It is anticipated that a total of five working days will be required for the removal. Three 7,500 gallon over-the-road tanks will be utilized for material transport to the treatment facility.



7.4 Neutral Waste Acid Disposal: Tank #20

Approximately 305,000 gallons of material exist in tank #20 that is described as neutral waste acid. The material resulted from the neutralization of waste pickling liquor and is believed to be similar to the material in the pie-shaped basin. It is suspected that the material has a high solid waste content which would inhibit an efficient materials transfer. Caution will have to be exercised in material handling due to the ignitable nature of the waste. Initial attempts for material transfer will be done with a high-powered vacuum pump such as the "supersucker. Should the material not be pumpable at all, a port will have to be cut in the side of the tank and the material would be removed using the bucket of a front-end loader. However, for the purposes of this EAP, it will be assumed that the material will be pumpable.

The material will be completely solidified using lime kiln dust as a solidifying agent. Solidification will be undertaken in two lined sludge boxes; two backhoes will be employed to thoroughly mix the waste. The kiln dust will be added at a 1:3 ratio with the neutral acid waste. Representative samples will be obtained prior to the treatment of the material and following solidification. The solidified waste will be removed from the site in lined dump trucks and transported to a secure landfill.

7.5 Off-Site Disposal of Cyanide Waste

In the event that the bench test laboratory analysis proves the cyanide to be untreatable, the material will either be sent to a treatment facility or a recycler. For cost estimation purposes, it will be assumed that the material is not recyclable and will be disposed at a treatment facility. Transfer of the material should encounter few difficulties; the valves on most of the tanks are operable. Should any of the tank valves not be functional, the cyanide liquid waste would be removed through the top of the tank. The material will be pumped using a three inch trash pump into tankers for transport to the treatment facility.

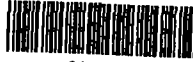
8.0 COST ESTIMATES FOR CONSERVATION CHEMICAL REMOVAL ACTION

8.1 Cleanup Support Costs

The duration of the cleanup project is estimated to last a total of ten weeks. The following sections (8.2 to 8.6) details the approximated costs per waste stream for removal and disposal. A summary of the cost estimation is provided in Section 9. All cost estimates are based on a ten-hour work day and a five-day work week.

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EPA Region 5 Records Ctr.



224912



Project No. 302114

March 87

VOLUME I

SITE ACTION PLAN

**CONSERVATION CHEMICAL COMPANY
OF ILLINOIS**

Gary, Indiana

RESPONSIVE TO THE NEEDS OF ENVIRONMENTAL MANAGEMENT

SITE ACTION PLAN

PROJECT TO REMOVE IMMINENT DANGER WASTES

TANK EMPTYING AND WASTE DISPOSAL

**CONSERVATION CHEMICAL COMPANY OF ILLINOIS SITE
GARY, INDIANA**

Prepared by:

**INTERNATIONAL TECHNOLOGY CORPORATION
March 12, 1987**

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